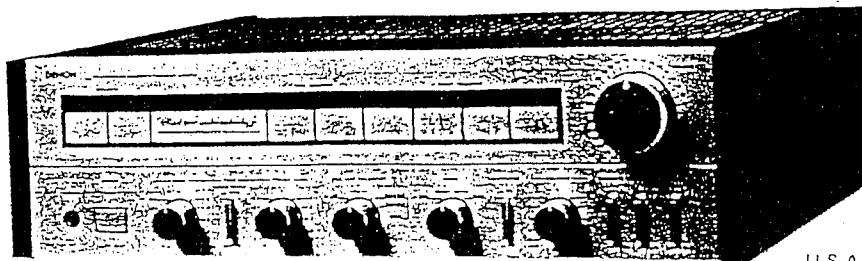


DENON

Hi-Fi Pre-Main Amplifier

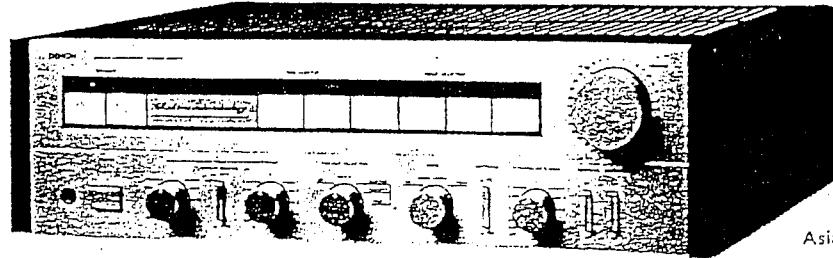
SERVICE MANUAL MODEL PMA-777 / 757

SOLID STATE
PRE MAIN AMPLIFIER



PMA-777

U.S.A. Version Only



PMA-757

Asia Version Only

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NIPPON COLUMBIA CO., LTD

**CAUTION**

RISK OF ELECTRIC SHOCK
DO NOT OPEN



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user of the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user of the presence of important operating and maintenance (servicing) instruction in the literature accompanying the appliance.

**WARNING: TO PREVENT FIRE OR SHOCK HAZARD.
DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.**

WARNING:**1. Component parts**

Parts marked with and/or shading in this service manual have special characteristics important to safety. Be sure to use the specified parts for replacement.

2. Leakage current

Before returning the appliance to customer, test the leakage current when the power plug is connected. Use a calibrated (with an error of not more than 5%) leakage current tester and measure the leakage current from any exposed metal to the earth ground. Reverse the power plug polarity and test the above again.

Any current measured MUST NOT EXCEED 0.5 millamps. Corrective measure must be taken if it exceeds the limit.

SPECIFICATIONS**• PMA-777****POWER AMPLIFIER SECTION**

Rated Output Power: Both channel drives (TUNER → SP OUT)
100 Watts minimum rms per channel
(8 ohm Load) with less than 0.02% total harmonic distortion from 20 Hz to 20 kHz.
120 W + 120 W (4 ohm Load)
20 Hz to 20 kHz at T.H.D. 0.05% (for U.S.A.)
1 kHz (4 ohm Load) 150 W + 150 W (DIN, T.H.D. 1%)
1 kHz (4 ohm Load) 30 W + 30 W (IEC, Subject to change by temperature test.) (for outside U.S.A.)

Total Harmonic Distortion:

0.003% (20 Hz - 20 kHz at -3 dB rated output 8 ohm Load)
0.02% (20 Hz - 20 kHz at rated output 8 ohm Load) (U.S.A.)

Intermodulation Distortion:

Below 7 kHz/60 Hz: 1/4 0.002% (at amplitude output equivalent to rated output)

Output Bandwidth: Transmission Characteristics:

5 Hz - 80 kHz (IHF T.H.D. 0.03%)
1 Hz - 250 kHz +0 -3 dB (at 1 W output)

Input Sensitivity:**150 mV****Input Impedance:****47 k ohm****Output Impedance:****0.08 ohm (1 kHz)****Output Terminals:**

Speaker: A or B Load 4 - 16 ohm
A + B Load 8 - 16 ohm
Headphone/Stereo headphone (390 mW/8 ohm)

EQUALIZER AMPLIFIER SECTION**Equalizer Amplifier****Output:** Maximum Output: 12 V (at 47 k ohm Load)**Rated Output:** 150 mV

Total harmonic distortion: less than 0.002% (at 1 kHz, 8 V output)

Input Sensitivity/Input Impedance:**PHONO-1, 2 MM 2.5 mV 47 k ohm****MC 200 μV 100 ohm****TUNER 150 mV 47 k ohm****DAD, VIDEO/AUX, TAPE 150 mV 47 k ohm****RIAA Deviation:****PHONO-1, 2 MM within ±0.2 dB (20 Hz - 100 kHz)****MC within ±0.2 dB (20 Hz - 100 kHz)****OVERALL CHARACTERISTICS****SN Ratio**

(IHFA Network): **PHONO-1, 2**
MM 88 dB (input terminals short-circuited for 2.5 mV input)
MC 72 dB (input terminals short-circuited for 250 μV input)
TUNER, TAPE, DAD, VIDEO/AUX: 110 dB (input terminals short-circuited)

Tone Control Adjustable

Range: **BASS** 100 Hz ±8 dB
TREBLE 10 kHz ±8 dB

Filtering Characteristics: **SUBSONIC** 20 Hz, 6 dB/oct

Loudness Characteristics: **Low frequency** 100 Hz + 7 dB
High frequency 10 kHz + 6 dB

AC OUTLET:

(For U.S.A., Canada and Asia)
SWITCHED × 2, 100 W (Total)
UNSWITCHED × 1, 250 W

• PMA-757**POWER AMPLIFIER SECTION****Rated Output Power:**

Both channel drives (TUNER → SP OUT)
80 Watts minimum rms per channel (8 ohm Load) with less than 0.02% total harmonic distortion from 20 Hz to 20 kHz.
100 W + 100 W (4 ohm Load)
20 Hz to 20 kHz at T.H.D. 0.05% (for U.S.A.)
1 kHz (4 ohm Load) 110 W + 110 W (DIN, T.H.D. 1%)
1 kHz (4 ohm Load) 30 W + 30 W (IEC, Subject to change by temperature test.) (for outside U.S.A. and Canada)

Total Harmonic Distortion:

0.005% (20 Hz - 20 kHz at -3 dB rated output 8 ohms Load) 0.02% (20 Hz - 20 kHz at rated output 8 ohm Load) (U.S.A.)

Intermodulation Distortion:

Below 7 kHz/60 Hz: 1/4 0.003% (at amplitude output equivalent to rated output)

Output Bandwidth:**Transmission Characteristics:** 5 Hz - 80 kHz (IHF T.H.D. 0.03%)**Input Sensitivity:** 1 Hz - 200 kHz +0 -3 dB (at 1 W output)**Input Impedance:** 150 mV**Output Impedance:** 47 k ohm**Output Terminals:** 0.08 ohm (1 kHz)**Speaker:** A or B Load 4 - 16 ohm**A + B Load 8 - 16 ohm**

Headphone/Stereo headphone (310 mW/8 ohm)

EQUALIZER AMPLIFIER SECTION**Equalizer Amplifier**

Output: Maximum Output: 12 V (at 47 k ohm Load)
Rated Output: 150 mV

Total harmonic distortion: less than 0.002% (at 1 kHz, 8 V output)

Input Sensitivity/Input Impedance:**PHONO MM 2.5 mV 47 k ohm****MC 200 μV 100 ohm****TUNER 150 mV 47 k ohm****DAD, VIDEO/AUX, TAPE 150 mV 47 k ohm****150 mV 47 k ohm****POWER SOURCE:**

Germany and France AC 220 V, 50 Hz;
U.K. and Australia AC 240 V, 50 Hz;
U.S.A. AC 120 V, 60 Hz; Asia 110/120/220/240 V, 50/60Hz (Multiple)

POWER CONSUMPTION: 245 W (U.S.A.); 250 W (IEC); 220 W (Multiple) 800 W Maximum Output

DIMENSIONS: 470 mm (18-1/2")W x 136 mm (5-11/32")H x 413 mm (16-1/4")D (with Wood Board)

434 mm (17-5/64")W x 136 mm (5-11/32")H x 413 mm (16-1/4")D (without Wood Board)
(including rubber feet, control knobs, and terminals.)

12.5 kg (27 lbs 9 oz) (with Wood Board)
11.5 kg (25 lbs 6 oz) (without Wood Board)

Design and specifications are subject to change without prior notice.

RIAA Deviation:

PHONO MC within ±0.3 dB (20 Hz - 100 kHz)

OVERALL CHARACTERISTICS**SN Ratio****(IHFA Network):** **PHONO**

MM 87 dB (input terminals short-circuited for 2.5 mV input)
MC 70 dB (input terminals short-circuited for 250 μV input)

TUNER, TAPE, DAD, VIDEO/AUX: 110 dB (input terminals short-circuited)

Tone Control Adjustable

Range: **BASS** 100 Hz ±8 dB
TREBLE 10 kHz ±8 dB

Filtering Characteristics: **SUBSONIC** 20 Hz, 6 dB/oct

Loudness Characteristics: **Low frequency** 100 Hz + 7 dB
High frequency 10 kHz + 6 dB

AC OUTLET:

(For U.S.A., Canada and Asia)
SWITCHED × 2, 100 W (Total)
UNSWITCHED × 1, 250 W

POWER SOURCE:

Germany and France AC 220 V, 50 Hz;
U.K. and Australia AC 240 V, 50 Hz;
U.S.A. and Canada AC 120 V, 60 Hz;
Asia 110/120/220/240 V, 50/60 Hz (Multiple)

POWER CONSUMPTION: 215 W (U.S.A.); 500 VA (Canada); 240 W (IEC); 190 W (Multiple); 650 W Maximum Output

DIMENSIONS:

470 mm (18-1/2")W x 136 mm (5-11/32")H x 413 mm (16-1/4")D (with Wood Board)

434 mm (17-5/64")W x 136 mm (5-11/32")H x 413 mm (16-1/4")D (without Wood Board)
(including rubber feet, control knobs, and terminals.)

13 kg (28 lbs 11 oz) (with Wood Board)
12 kg (26 lbs 7 oz) (without Wood Board)

10.5 kg (23 lbs 2 oz) (without Wood Board) (For U.S.A. & Canada)

Design and specifications are subject to change without prior notice.

NOTE: The following code correspond to the appropriate models.

E2 for Europe, E1 for Asia, E3 for U.S.A., EK for U.K., EA for Australia and EC for Canada.

This Service Manual is prepared based on E2 Gold Version.

CONTROLS AND FUNCTIONS

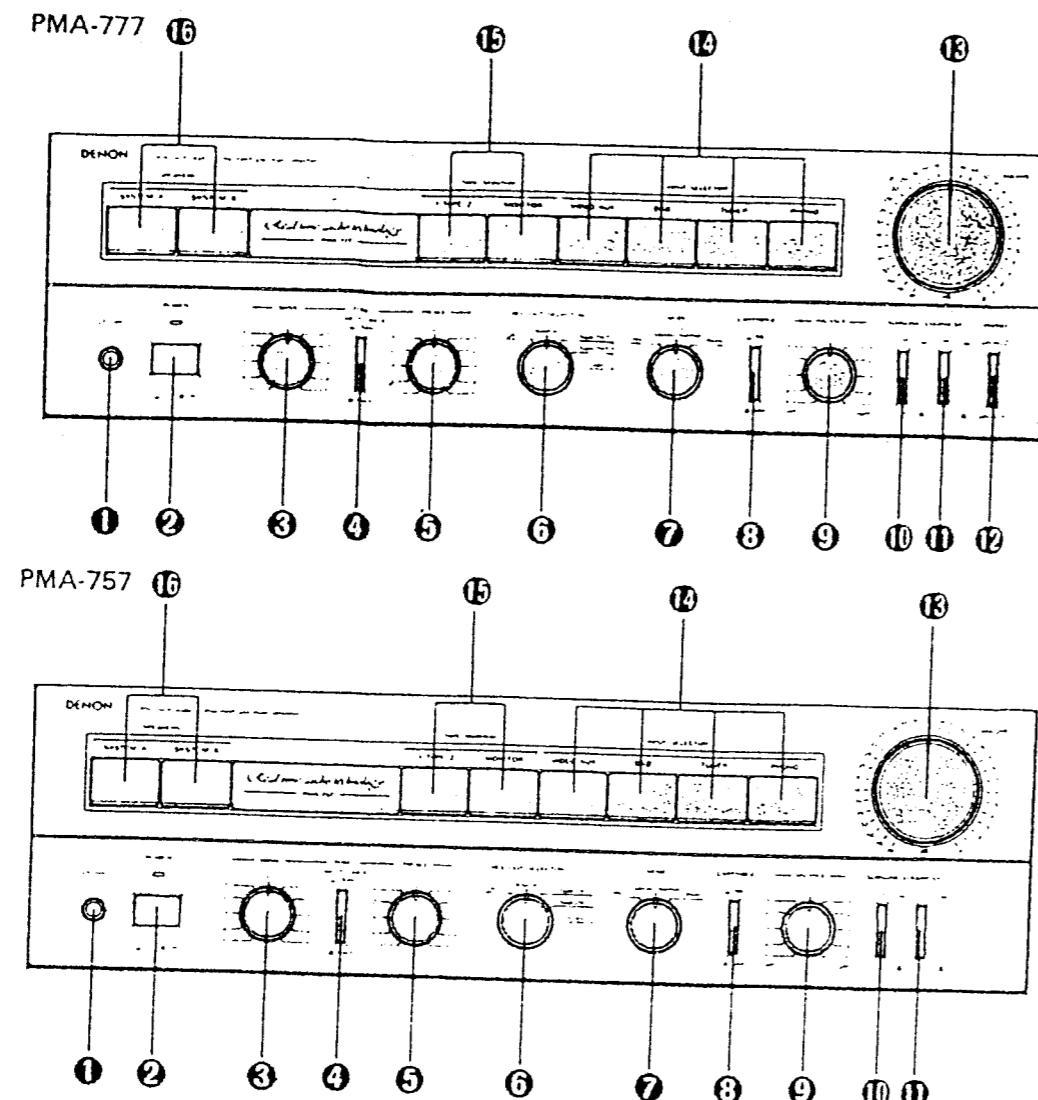
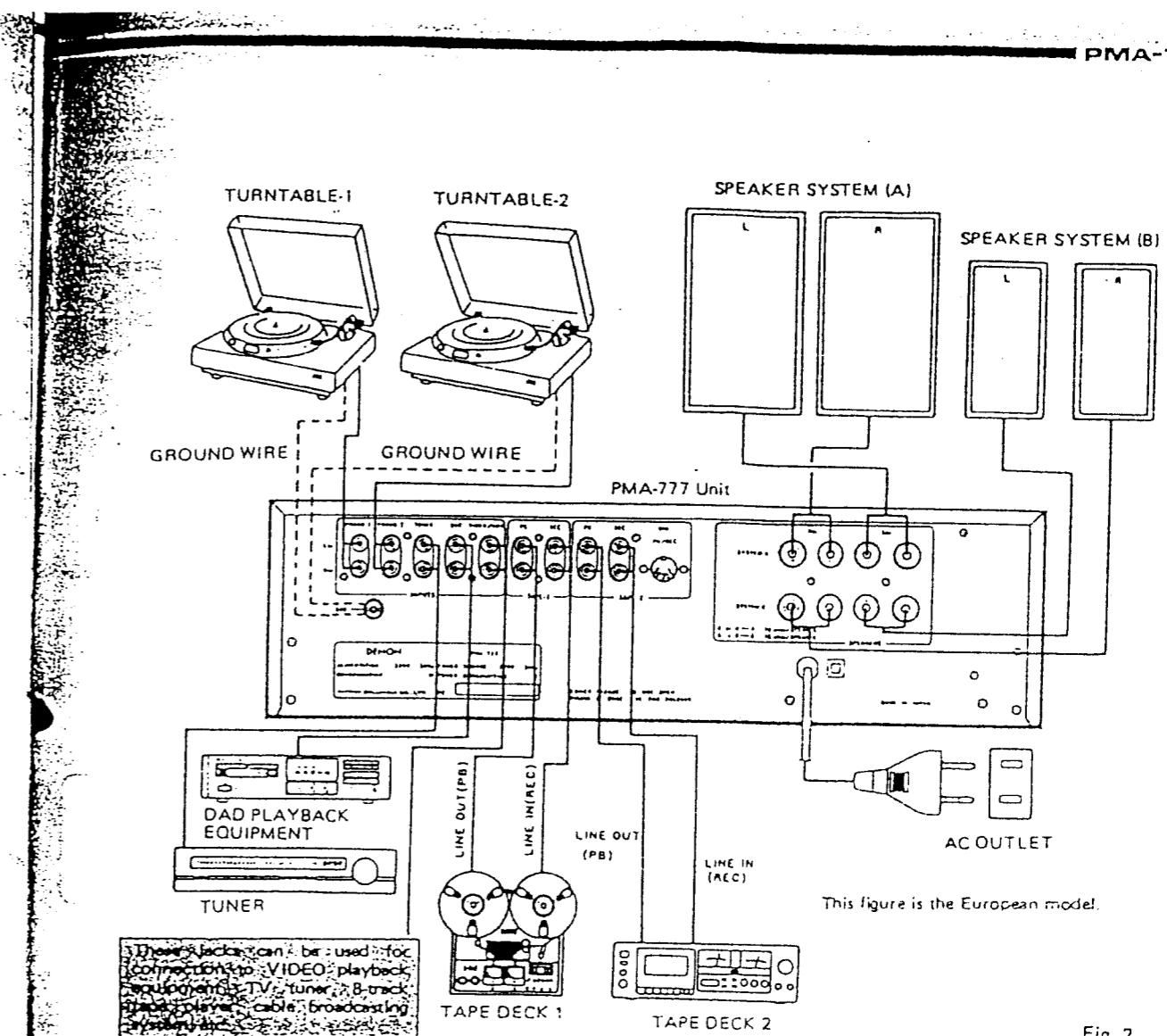


Fig. 1

- (1) phones (Headphone Jack)
- (2) POWER & LED Indicator (Power Switch and LED Indicator)
- (3) BASS (Bass Control)
- (4) DIRECT COUPLE (Direct Coupling Switch)
- (5) TREBLE (Treble Control)
- (6) REC OUT SELECTOR (REC OUT Selector Switch)
off, source, tape 1 ▶ 2, tape 2 ▶ 1
copy
- (7) MODE (Mode Switch)
rev. stereo normal, mono
- (8) CARTRIDGE (Cartridge Select Switch)
MC, MM
- (9) BALANCE (Balance Control)
- (10) SUBSONIC (Subsonic Filter Switch)
- (11) LOUDNESS (Loudness Switch)
- (12) PHONO (Turntable Select Switch)
... only for PMA-777
Phono 1, Phono 2
- (13) VOLUME (Volume Control)
- (14) INPUT SELECTOR (Input Selector Switch)
PHONO, TUNER, DAD, VIDEO/AUX
- (15) TAPE MONITOR (Tape Monitor Switch)
- (16) SPEAKERS (Speaker Select Switch)
SYSTEM A, SYSTEM B



This figure is the European model.

Fig. 2

(1)

CONNECTIONS

- Do not plug power cord into AC outlet until all connections are completed.
- Connect right (R) channel plug to right (R) channel jack, and left channel plug to left channel jack.
- Insert plugs firmly into corresponding jacks. If connection is incomplete, noise may be generated.
- Plug audio component power cords into AC OUTLET terminal. Do not use this terminal for other electrical appliances, such as hair dryers. (NOT INCLUDED IN SYSTEMS FOR USE IN EUROPE AND AUSTRALIA)
- Do not bundle pin plug cords with power cord. Do not place pin plug cords near power transformer, or hum and other noise may occur.
- Always connect a pin plug cord or shorting pins to "PHONO" input terminals because these terminals are highly sensitive. If these terminals are not connected, induction hum may occur.

(2)

AC OUTLETS (NOT INCLUDED IN SYSTEMS FOR USE IN EUROPE AND AUSTRALIA)
AC outlets are used for connecting amplifier component units, such as tuner, turntable, tape deck, etc.

- SWITCHED (Capacity: 100 W):
This outlet is turned on/off when main power switch is turned on/off.
- UNSWITCHED (Total capacity: 250 W):
These outlets are always ON whether power switch is on or off.

(3)

LINE VOLTAGE (Voltage select switch) ... NOT INCLUDED IN SYSTEMS FOR USE IN EUROPE, U.S.A., CANADA AND AUSTRALIA

- The desired voltage may be set with the VOLTAGE SELECTOR KNOB on the back panel using a screw driver.
- Do not twist the VOLTAGE SELECTOR KNOB with excessive force. It may be damaged.
- If the voltage select switch does not turn smoothly, see a qualified serviceman.

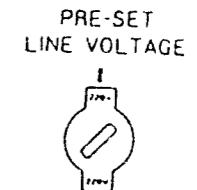


Fig. 3

METHOD OF ADJUSTMENTS

Carry out adjustment at room temperature and normal humidity with the power source operating at the rated voltage.

ADJUSTMENT OF IDLING CURRENT (ETC0738, ETC0738B) – Fig. 4**Preparation**

- 1 Place the unit in normal operating condition, avoid such good ventilating location close to air conditioner, circulating fan, etc.

The unit circumference temperature must be in $15^{\circ} \sim 30^{\circ}\text{C}$.

- 2 Set the switches as follows:

- POWER SWITCH → OFF
- VOLUME CONTROL → $-\infty$ (○)
- DIRECT COUPLE → DIRECT
- SPEAKER TERMINAL → No load (Do not connect speakers, dummy resistors.)

Adjustment

- 1 Remove top cover and rotate VR301 (Lch) counterclockwise (○) and VR302 (Rch) clockwise (○) on the ETC-738. Connect a DC voltmeter to the test point (Lch TP-1, 2 and Rch TP-3, 4).

- 2 Connect the power cord and turn the POWER switch on. Immediately after turning on the power, rotate VR301 clockwise (○), VR302 counterclockwise (○) and adjust the test point voltage value –

PMA-777: $2\text{ mV} \pm 0.2\text{ mV DC}$
PMA-757: $5\text{ mV} \pm 0.2\text{ mV DC}$

- 3 3 minutes after the preparatory adjustment as in step 2, rotate VR301, VR302 and obtain the voltage value –

PMA-777: $11\text{ mV} \pm 2\text{ mV DC}$
PMA-757: $13\text{ mV} \pm 0.5\text{ mV DC}$

CAUTION

VR301 and VR302 of the present model have opposite turning directions in adjustment. In the future by changing of the board, adjustment of VR302 will be the same manner as of VR301.

Therefore after the board has changed (222 1090 208), adjust the VR302 with the possible care.

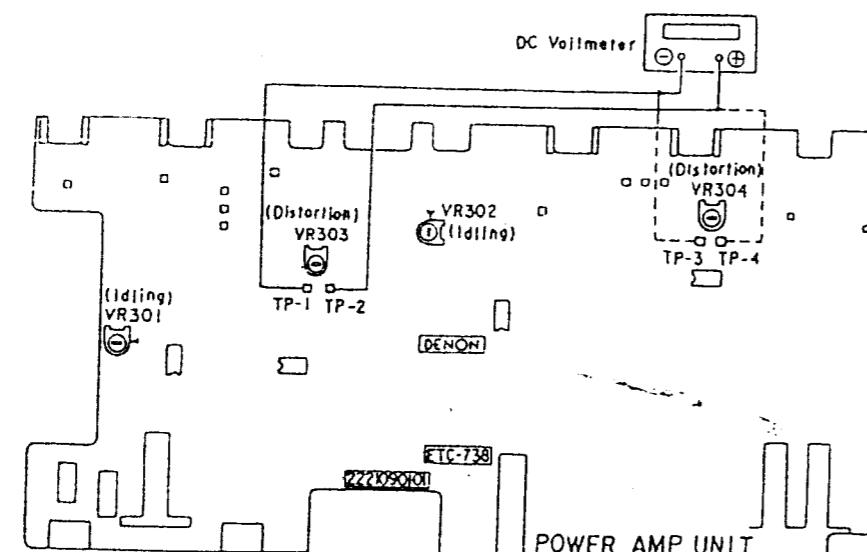


Fig. 4

ADJUSTMENT OF DISTORTION FACTOR (Fig. 4)

- 1 Connect a 8-ohm loading resistor across the speaker terminal.
- 2 Inject 20 kHz sine wave signal through the TUNER terminal. Operate both L and R channels and obtain 50 watts (20 Vrms) output power across the 8-ohm loading resistor.
- 3 Adjust VR303 (Lch) and VR304 (Rch) for minimum distortion factor (be sure to put bottom cover to the unit during the adjustment).

ADJUSTMENT OF NEUTRAL POTENTIAL POINT (Fig. 5, Fig. 5')**Preparation**

- 1 Insert the shorting pin into the PHONO input terminal.

- 2 Connect a digital voltmeter (be able to measure 0.01 mV through 1 mV DC) to the REC output (Lch and Rch).

- 3 Connect a 100-k ohm (1/4 watt or so) resistor across the test point (Lch TP-3, 4 and Rch TP-5, 6) on the EQ Amp unit.

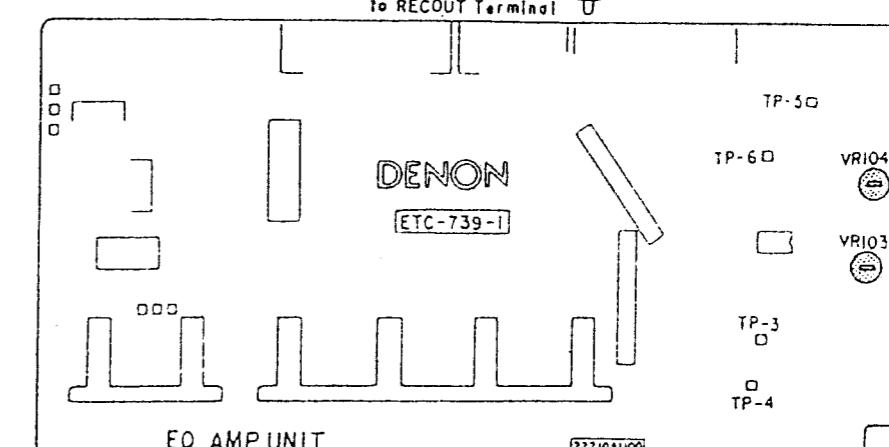
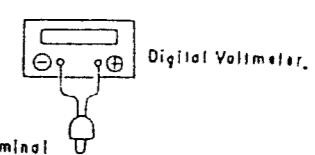
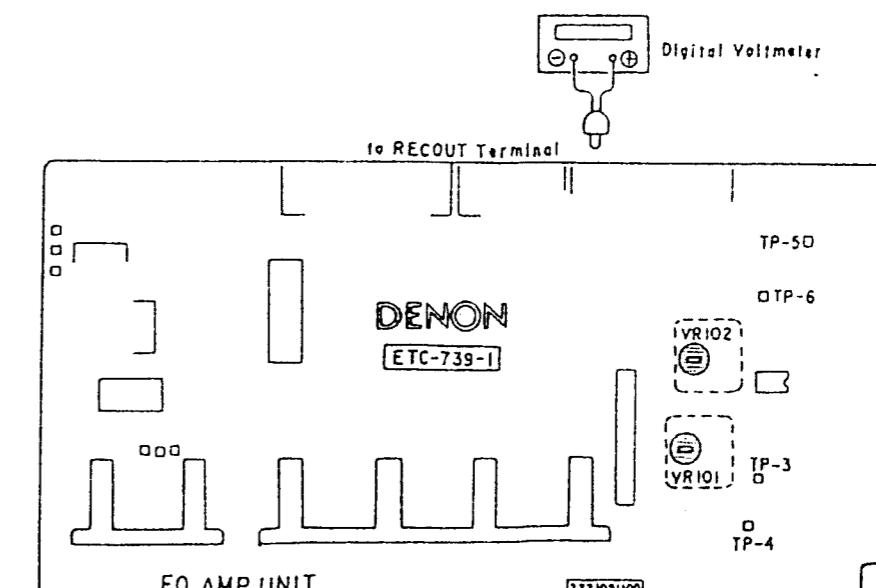
- 4 Set the switches as follows:

- INPUT SELECTOR → PHONO
- REC OUT SELECTOR → Source
- CARTRIDGE → MM
- VOLUME CONTROL → $-\infty$ (○)

Adjustment

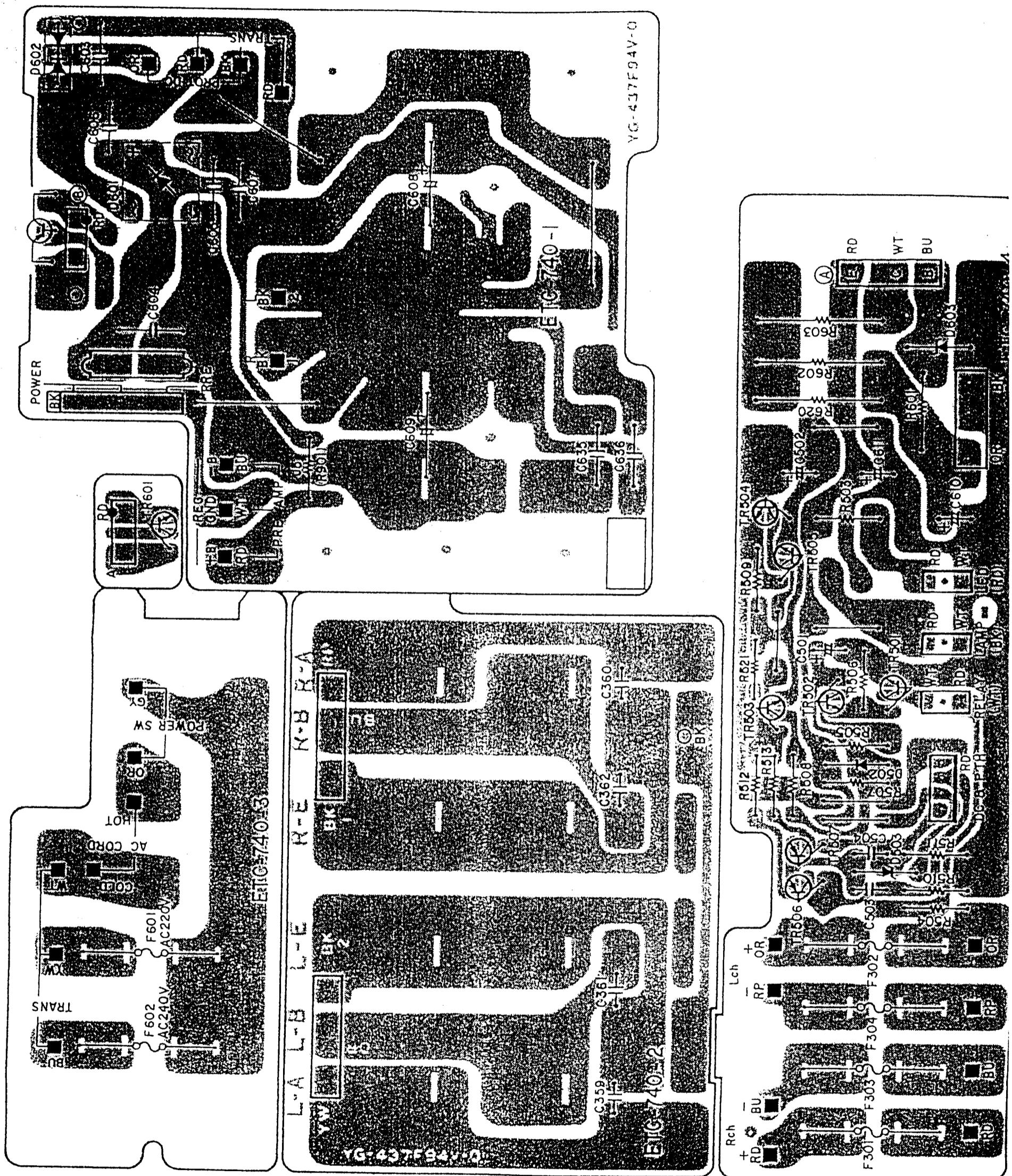
- 1 Approximately 2 minutes after turning on the POWER switch, rotate – VR103 (PMA-777), VR101 (PMA-757) and adjust the Lch digital meter reading for 0.5 mV DC or less value.

- 2 In the same manner rotate – VR104 (PMA-777), VR102 (PMA-757) and adjust the Rch digital meter reading for 0.5 mV DC or less value.

Fig. 5
for : PMA-777Fig. 5'
for : PMA-757

• PMA-777

ETC0740 P.S & PROTECT UNIT



ETC0739 INPUT & EQ. UNIT PARTS LIST

Ref. No.	Part No.	Part Name & Descriptions
SEMICONDUCTORS		
IC101	2630118027	NJM4560DX (JRC) IC
IC103, 104	2630133002	μPC741 (NEC) IC
TR101 ~108	2750046008	ZSK170(BL)/(V)DVGs FET
TR602, 603	2750043001	2SK381(B)/(C) FET
TR604	2730236029	2SC2824(Y/O)
TR605	2710178039	2SA564A(R)
TR606	2710135027	2SA1184(Y/O)
D105, 106	2760049008	IS2076 TRANSISTOR
D107	2760224001	HZ-30 ZENER
D501	2760191008	W03C DIODE
D604	2760301005	HZ22-2 ZENER
RESISTORS (not included Carbon ±5%, 1/4W Type)		
RF103	242001018	500 ohm ±5% 1W METAL OXIDE (NB)
RF151	241234025	500 ohm ±5% 1W METAL OXIDE (NB)
RF152	2410021029	220 ohm ±5% 1W METAL OXIDE (NB)
RF153	2410030023	100 ohm ±5% 1W METAL OXIDE (NB)
RF154	2410033023	300 ohm ±5% 1W METAL OXIDE (NB)
VR103, 104	EP-5462H19	SOLID VR 100k ohm
CAPACITORS (not included Ceramic ±5%, 50V Type)		
C101 ~103	2544145005	0.47μF ±20% 50V ELECTROLYTIC
C127, 128	2554161008	0.0047μF ±5% 50V PLASTIC FILM
C129	2544157006	470μF ±20% 25V ELECTROLYTIC
C131, 132	2549011008	1μF LOW LEAK 50V ELECTROLYTIC
C133, 134	2544146004	1μF ±20% 50V ELECTROLYTIC
C135, 136	2554173009	0.015μF ±5% 50V PLASTIC FILM
C137, 138	2554131009	270pF ±5% 50V PLASTIC FILM
C139, 140	2554187008	0.056μF ±5% 50V PLASTIC FILM
C141, 142	2554169000	0.01μF ±5% 50V PLASTIC FILM
C143, 144	2544130007	100μF ±20% 10V ELECTROLYTIC
C145, 146	2544146004	1μF ±20% 50V ELECTROLYTIC
C149 ~152	2554163006	0.0056μF ±5% 50V PLASTIC FILM
C153, 154	2531024003	0.01μF +80, -20% 50V CERAMIC
C355, 356	2554169000	0.01μF ±5% 50V PLASTIC FILM
C357, 358	2554177005	0.022μF ±5% 50V PLASTIC FILM
C612	2544153000	47μF ±20% 50V ELECTROLYTIC
C615, 616	2544146004	1μF ±20% 50V ELECTROLYTIC
C179 ~181	2531024003	0.01μF +80, -20% 50V CERAMIC

PRINTED WIRING BOARD PATTERNS AND PARTS LIST

ETC0740 P.S & PROTECT UNIT PARTS LIST

Ref. No.	Part No.	Part Name & Descriptions	
SWITCHES			
SW101	2124513002	SLIDE SW (4-2) REMOTE PH. SELECTOR	
SW102	2124330007	SLIDE SW (4-2) REMOTE CARTRIDGE	
SW103	2124512003	4P PUSH SWITCH INPUT SEL	
SW104	2124422009	2P PUSH SWITCH T. MONITOR	
SW105	2124187001	SLIDE SW (4-4) REMOTE REC OUT	
SW106	2124510005	2P PUSH SWITCH S.P.	
OTHER PARTS			
LE501	2221091100	P.W. BOARD	
	EP-5667H1	TERMINAL PIN USED 30	
	2090008146	JUMPER WIRE P=5mm USED 6	
	2090008120	JUMPER WIRE P=10mm USED 100	
	2090008117	JUMPER WIRE P=12.5mm USED 8	
L301, 302	4140116106	SHIELD COVER USED 2	
PL601 ~609	3939154008	PR5552K-1 RED LED	
	2350007007	INDUCTOR	
	3930083000	PILOT LAMP 16V 0.04A USED 9	
CAPACITORS			
RL501	4530022208	LAMP COVER (A) USED 7	
	4530023207	LAMP COVER (B) USED 1	
	1220109007	BLIND SHEET	
	4410412200	LED HOLDER	
	2034197097	3P CONNECTOR CORD	
	2034214019	3P CONNECTOR CORD	
	2034185096	3P CONNECTOR CORD	
	2034181074	3P CONNECTOR CORD	
	2034181087	3P CONNECTOR CORD	
	2038132016	5P CONNECTOR CORD	
	2140037009	RELAY	
	2048100009	HEADPHONE JACK	
	2050145007	4P CONNECTOR BASE PHONO	
	2036084001	4P CONNECTOR BASE USED 2	
	2040079002	6P CONNECTOR BASE	
	2048059008	DIN JACK (5P)	
	4140240001	EARTH PLATE	
	4170043000	RADIATOR USED 2	
	4730354019	TAPPING SCREW (2) 3x8 USED 2	
	2050190036	3P NH CONNECTOR BASE USED 2	
	2050190052	5P NH CONNECTOR BASE	
	2050185038	3P WIRE HOLDER USED 7	
	2050185054	5P WIRE HOLDER	
CAPACITORS			
	C359	2531024003	0.01μF +80, -20% 50V CERAMIC
	C362	2544129005	47μF ±20% 10V ELECTROLYTIC
	C501	2544161034	330μF ±20% 6.3V ELECTROLYTIC
	C502	2531024003	0.01μF +80, -20% 50V CERAMIC
	C504	2531053003	0.01μF +100, -0% 500V CERAMIC
	C604	2546058006	22000/22000μF 63V ELECTROLYTIC
	C607	2544063035	100μF ±20% 80V ELECTROLYTIC
	C609	2544146004	1μF 50V ELECTROLYTIC
	C610	2544063035	100μF ±20% 80V ELECTROLYTIC
	C611	2544146004	1μF 50V ELECTROLYTIC
	2061015087	0.01μF ±20% 250VAC METALIZED	
FUSE			
	46301	2061040023	FUSE (T4A) MINISEMKO
	46304	2061015087	FUSE (T4A) MINISEMKO
OTHER PARTS			
	2221092109	P.W. BOARD	
	EP-5667H1	TERMINAL PIN USED 25	
	2090008120	JUMPER WIRE P=10mm USED 5	
	2050185054	5P WIRE HOLDER	
	2050185038	3P WIRE HOLDER USED 2	
	2050190036	3PNH CONNECTOR BASE USED 3	
	2050190049	4PNH CONNECTOR BASE	
	2050122033	3P CONNECTOR PIN ASS'Y USED 2	
	2050087039	3P TERMINAL USED 3	
	2090052008	JUMPER D=1.6 Φ=20mm USED 3	

PRINTED WIRING BOARD PATTERNS AND PARTS LIST

Ref. No.	Part No.	Part Name & Descriptions
SEMICONDUCTORS		
TR601	2740088018	2SD1406(Y/GR) TRANSISTOR
TR501	2730235020	2SC1841(E/F) TRANSISTOR
TR502	2730269038	2SC1685(R) TRANSISTOR
TR503	2730269038	2SA564A(R) TRANSISTOR
TR507	2760049008	1S2076 DIODE
D502	2760236031	HZ5C-1 ZENER
D503	2760356005	D5FB20(4001) DIODE
D601	2760151006	1D2C-1 DIODE
D602	2760256008	HZ-16-2 ZENER
RESISTORS		
R503	2412096008	1.5k ohm ±5% 1/4W CARBON
	2440037025	270 ohm ±5% 1/4W METALOXIDE (NB)
R505	2412116001	10k ohm ±5% 1/4W CARBON
R506	2412108006	4.7k ohm ±5% 1/4W CARBON
R507	2412164008	1M ohm ±5% 1/4W CARBON
R508	2412036000	4.7 ohm ±5% 1/4W CARBON
R509	2412116001	10k ohm ±5% 1/4W CARBON
R510	2412149007	220k ohm±5% 1/4W CARBON
R511	2412120000	15k ohm ±5% 1/4W CARBON
R512	2412140006	100k ohm±5% 1/4W CARBON
R513	2440086022	2100 ohm±5% 1/4W METALOXIDE (NB)
R514	2440079025	270 ohm ±5% 1/4W METALOXIDE (NB)
CAPACITORS		
C359 ~362	2531024003	0.01μF +80, -20% 50V CERAMIC (DELETE)
C635, 636	2568024018	0.1μF ±20% 250V METALIZED (DELETE)
OTHER PARTS		
	2020022008	FUSE HOLDER (DELETE)
	2061015087	FUSE (T4A) MINISEMKO (DELETE)

ETC0740D E1 for Asia

(Same as ETC0740 except the followings.)

Ref. No.	Part No.	Part Name & Descriptions
CAPACITORS		
C359 ~361	2531024003	0.01μF +80, -20% 50V CERAMIC (DELETE)
C635, 636	2568024018	0.1μF ±20% 250V METALIZED (DELETE)
OTHER PARTS		
	2020022008	FUSE HOLDER (DELETE)
	2061015087	FUSE (T4A) MINISEMKO (DELETE)

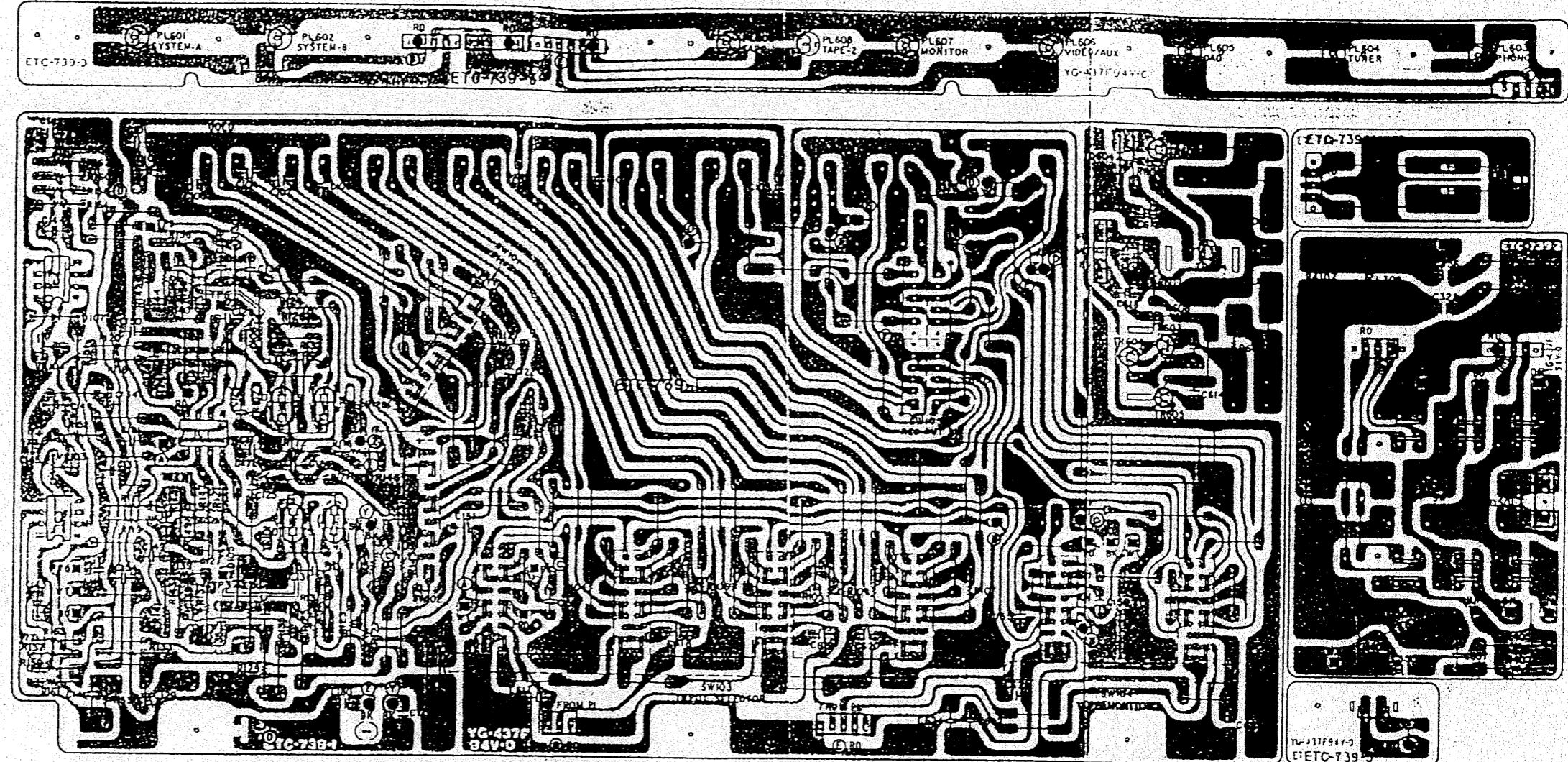
ETC0740E E3 for U.S.A.

(Same as

1 for Asia
0739 except the followings.)

- PMA-777
- ETC0739 INPUT & EQ. UNIT

No.	Part Name & Descriptions
RESISTORS	
6003	470k ohm±5% 1/4W CARBON (DELETE)
8120	JUMPER WIRE P=10mm (CHANGE)
CAPACITORS	
2001	430pF ±5% 50V CERAMIC (DELETE)
3000	470pF ±5% 50V CERAMIC (DELETE)
5008	560pF ±5% 50V CERAMIC (DELETE)
4003	0.01μF +80,-20% 50V CERAMIC (DELETE)
6004	240pF ±5% 50V CERAMIC (DELETE)
X005	47pF ±5% 50V CERAMIC (CHANGE)
OTHER PARTS	
008	DIN JACK (5P) (DELETE)
8120	JUMPER WIRE P=10mm USED 102 (CHANGE)



for U.S.A.
0739 except the followings.)

No.	Part Name & Descriptions
RESISTORS	
1003	470k ohm±5% 1/4W CARBON (DELETE)
120	JUMPER WIRE P=10mm (CHANGE)
CAPACITORS	
X01	430pF ±5% 1/4W CERAMIC (DELETE)
003	0.01μF +80,-20% 50V CERAMIC (CHANGE)
OTHER PARTS	
	2048059008 2090008120 DIN JACK (5P) JUMPER WIRE P=10mm USED 102 (CHANGE)

ETC0739F EA for Australia and EK for U.K.
(Same as ETC0739 except the followings.)

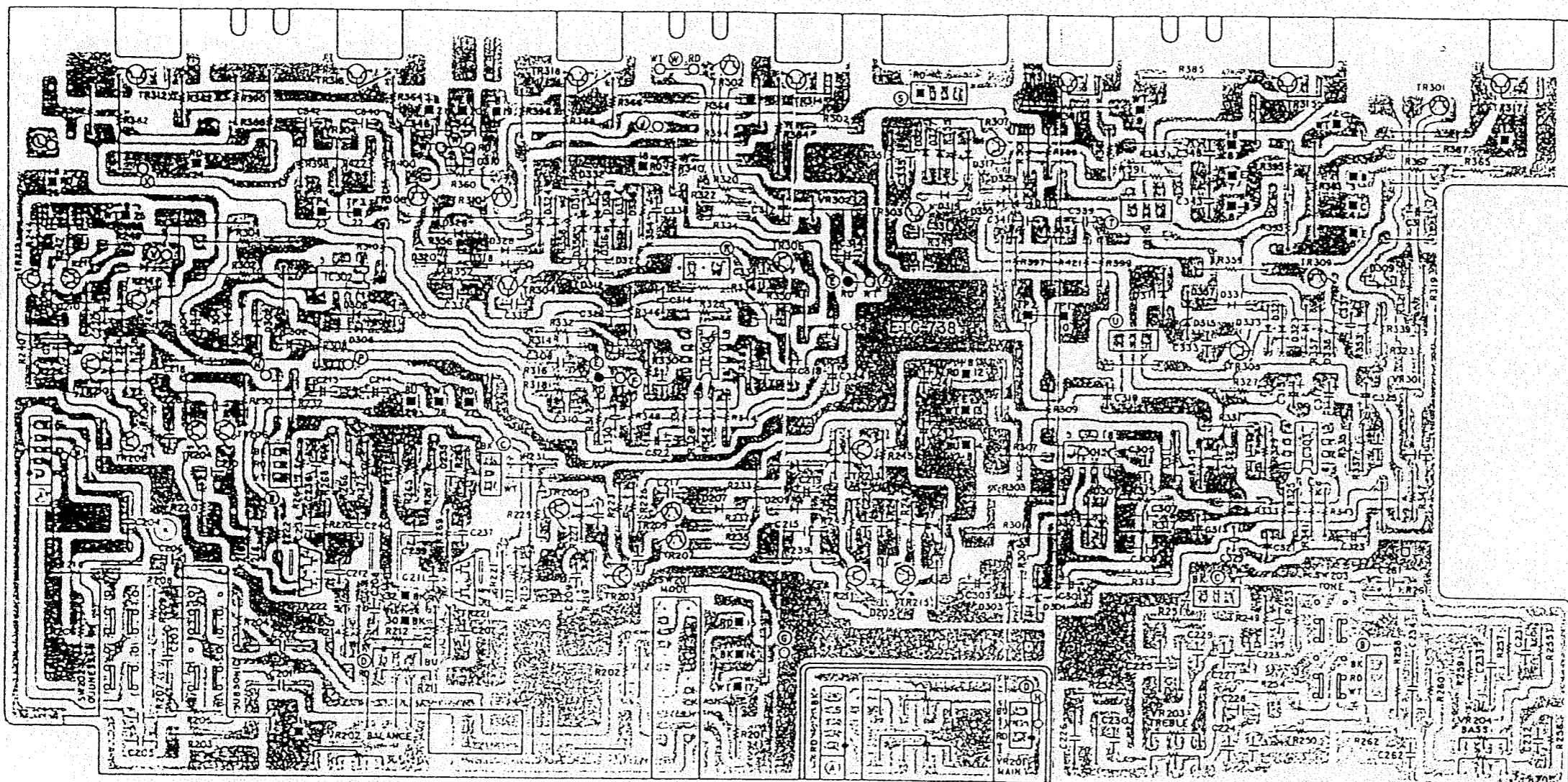
Ref. No.	Part No.	Part Name & Descriptions
RESISTORS		
C155,	2533643000	470pF ±5% 50V CERAMIC (DELETE)
156		
C171,	2533636004	240pF ±5% 50V CERAMIC (DELETE)
172		
C125,	2533645008	560pF ±5% 50V CERAMIC (CHANGE)
126		
C173,	2533619005	47pF ±5% 50V CERAMIC (CHANGE)
174		
OTHER PARTS		
	2048059008 2090008120	DIN JACK (5P) JUMPER WIRE P=10mm USED 102 (CHANGE)

Ref. No.	Part No.	Part Name & Descriptions
RESISTORS		
R171,	2090008120	JUMPER WIRE P=10mm (CHANGE)
172		
CAPACITORS		
C104	2533642001	430pF ±5% 50V CERAMIC (DELETE)
~107		
C178,	2531024003	0.01μF +80,-20% 50V CERAMIC (CHANGE)
179,		
180		
OTHER PART		
	2090008120	JUMPER WIRE P=10mm USED 102 (CHANGE)

Ref. No.	Part No.	Part Name & Descriptions
RESISTORS		
C155,	2533643000	470pF ±5% 50V CERAMIC (DELETE)
156		
C171,	2533636004	240pF ±5% 50V CERAMIC (DELETE)
172		
C125,	2533645008	560pF ±5% 50V CERAMIC (CHANGE)
126		
C173,	2533619005	47pF ±5% 50V CERAMIC (CHANGE)
174		
OTHER PART		
	2090008120	JUMPER WIRE P=10mm USED 102 (CHANGE)

* PMA-777
ETC0738 TONE & POWER UNIT

ETC0738 TONE & POWER UNIT PARTS LIST



Ref. No.	Part No.	Part Name & Descriptions
SEMICONDUCTORS		
TR221, 222	2750046008	2SK170(BL)/(V)DVGS FET
IC301 ~304	2630257001	M-5218P (MITSUBISHI) IC
TR201, 202	2750046008	2SK170(BL)/(V)DVGS FET
TR203 ~206	2730235020	2SC1841(E/F) TRANSISTOR
TR207 ~210	2710185006	2SA949(O)/(Y) TRANSISTOR
TR211 ~214	2730307000	2SC2229(O)/(Y) TRANSISTOR
TR215, 216	2710185006	2SA949(O)/(Y) TRANSISTOR
TR301, 302	2730198015	2SC1815(BL) TRANSISTOR
TR303, 304	2730307000	2SC2229(O)/(Y) TRANSISTOR
TR305, 306	2710185006	2SA949(O)/(Y) TRANSISTOR
TR307, 308	2730199027	2SC2238(Y)/(O) TRANSISTOR
TR309, 310	2710104029	2SA968(Y)/(O) TRANSISTOR
D205 ~210	2760049008	1S207E DIODE
D301 ~304	2760253001	HZ15-2 ZENER
D305 ~308	2760049008	1S207E DIODE
D309, 310	2760388002	MV-1YH DIODE
D311, 312	2760236031	HZ5C-1 ZENER
D313 ~316	2760052053	HZ11B-1 ZENER
D317 ~336	2760049008	1S207E DIODE
D355 ~358	2760049008	1S207E DIODE

RESISTORS (not included Carbon Film ±5%, 1/4W Type)

R209, 210	2420203003	10M ohm ±10% 1/4W CARBON COMPOSITE
AR211 ~212	2412314023	±470 ohm ±5% 1/4W CARBON (NB)
AR223 ~226	2412314023	±470 ohm ±5% 1/4W CARBON (NB)
AR231 ~232	2412315047	±50 ohm ±2% 1/4W CARBON (FR)
AR233 ~234	2412313003	±100 ohm ±2% 1/4W CARBON (FR)
AR235 ~236	2412313003	±100 ohm ±2% 1/4W CARBON (FR)
AR239 ~240	2440054025	±2.2 ohm ±5.5% 1/4W METAL ALOXIDE (NB)
AR241 ~242	2412313037	±220 ohm ±2% 1/4W CARBON (FR)
AR245 ~246	2412321016	±220 ohm ±2% 1/4W CARBON (NB)
AR248 ~249	2412321016	±220 ohm ±2% 1/4W CARBON (NB)
AR3015 ~302	2440103028	±27K ohm ±5% 0.2W METAL ALOXIDE (NB)
AR306 ~307	241231045	±220 ohm ±2% 1/4W CARBON (NB)
AR309 ~310	2412321003	±12 ohm ±6% 1/4W CARBON (NB)

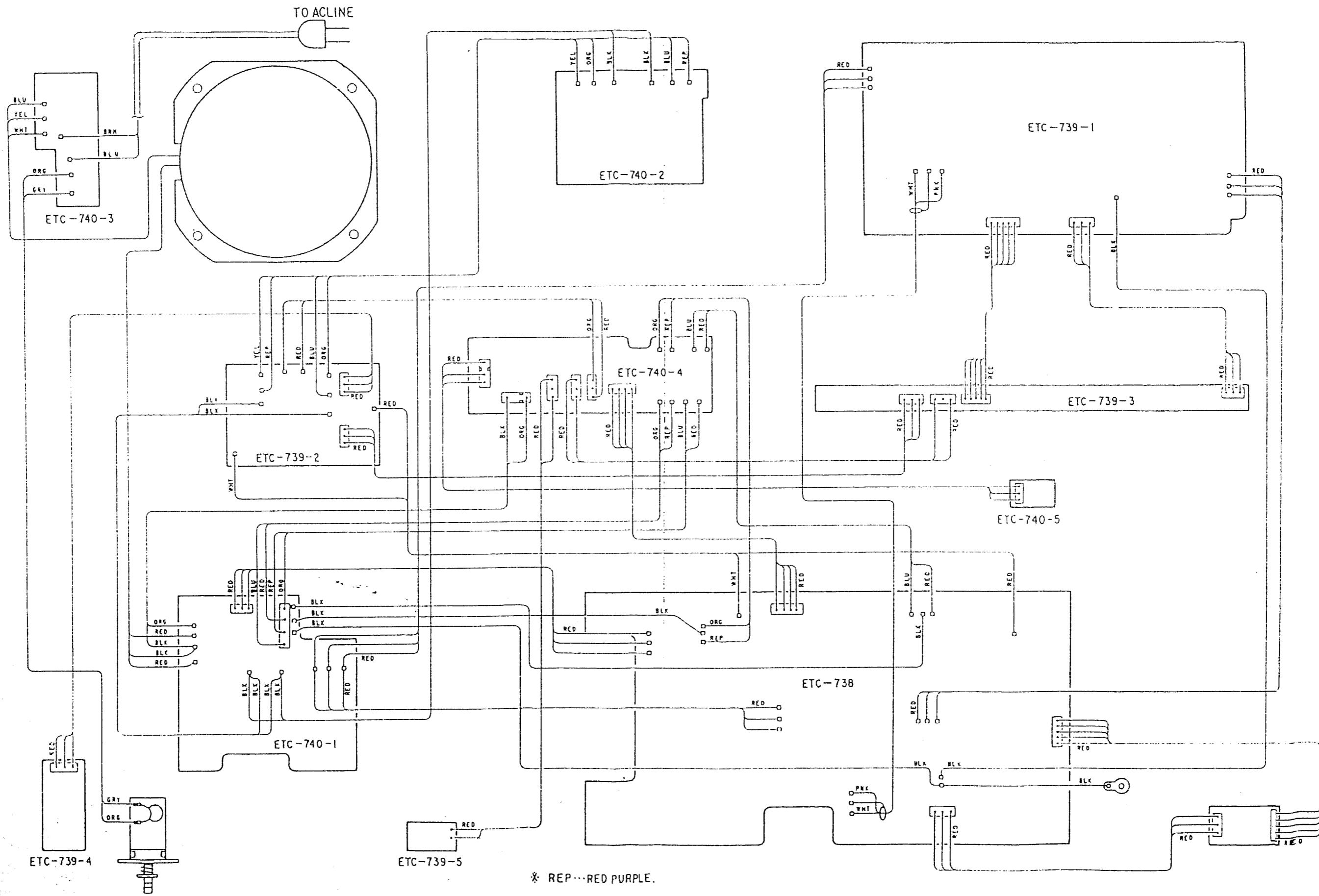
ETC0738E E3 for U.S.A.
(Same as ETC0738 except the followings.)

Ref. No.	Part No.	Part Name & Descriptions
CAPACITORS		
C241, 243	2544203002	1μF ±20% 160V ELECTROLYTIC (CHANGE)

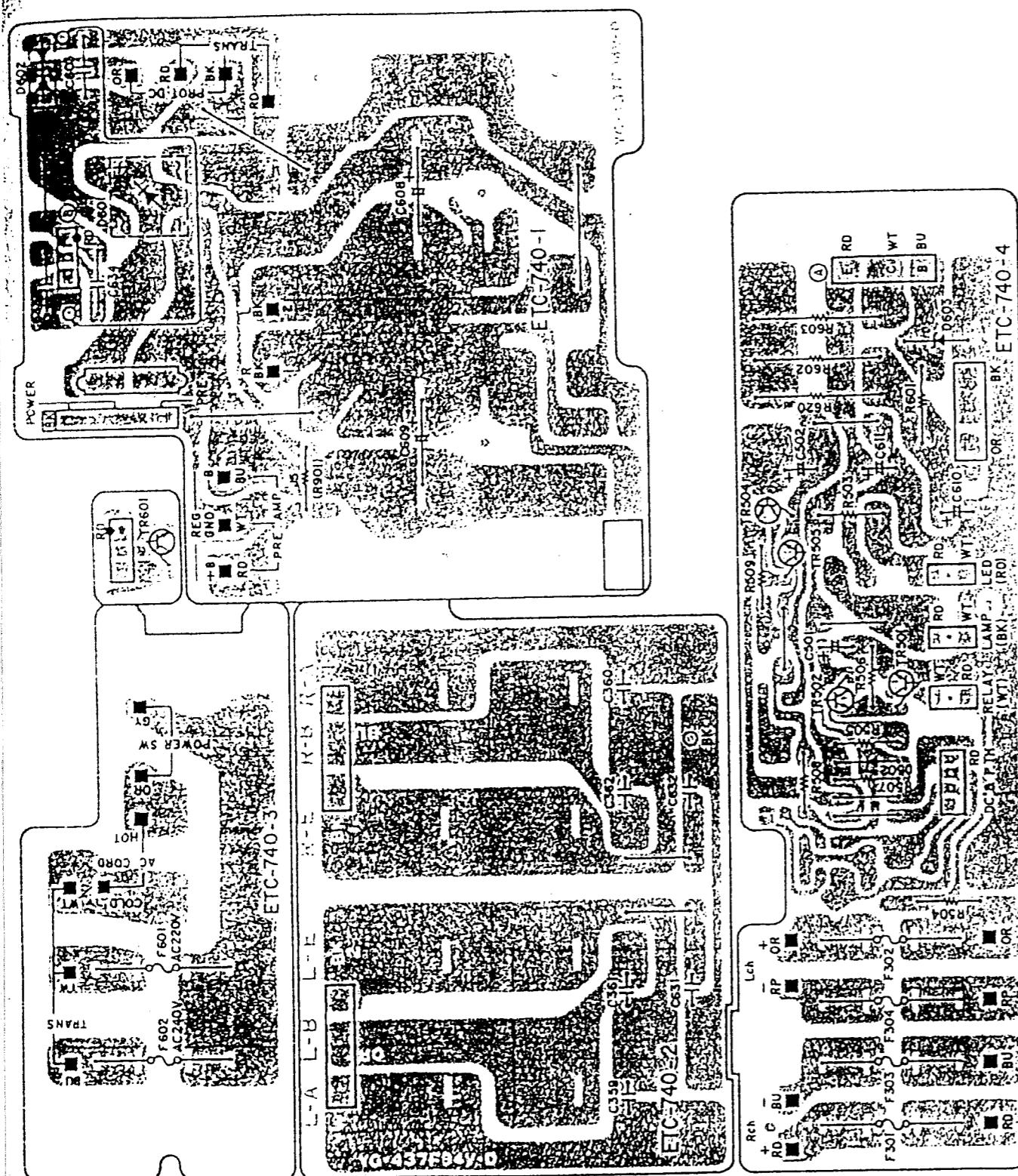
CONNECTION DIAGRAM

• PMA-777

This figure is E2 version



• PMA-757
ETC0740B P.S & PROTECT UNIT



ETC0740B P.S & PROTECT UNIT PARTS LIST

Ref. No.	Part No.	Part Name & Descriptions
SEMICONDUCTORS		
TR501	2730235020	2SC1841(F)/(E) TRANSISTOR
TR502	2730269038	2SC1685(R) TRANSISTOR
TR504, 505	2730269038	2SC1685(R) TRANSISTOR
TR601	2740088018	2SD1406(Y)/(GR) TRANSISTOR
D502	2760049008	1S2076 DIODE
D601	2760356005	D5FB20(4001) DIODE
D602	2760151006	1D8C1 DIODE
D603	2760256008	HZ-16-2 ZENER
RESISTORS		
R503	2412096008	1.5k ohm ±5% 1/4W CARBON
R504	2412369081	330 ohm ±5% 1/4W CARBON (NB)
R505	2412116001	10k ohm ±5% 1/4W CARBON
R506	2412108006	4.7k ohm ±5% 1/4W CARBON
R507	2412164008	1M ohm ±5% 1/4W CARBON
R508	2412036000	4.7 ohm ±5% 1/4W CARBON
R509	2412116001	10k ohm ±5% 1/4W CARBON
R601	2410205008	6.8k ohm ±5% 1/2W CARBON COMPOSIT
R602	2440086022	100 ohm ±5% 1/2W METAL OXIDE
R603	2440079026	27 ohm ±5% 1/2W METAL OXIDE (NB)
R620	2440086022	100 ohm ±5% 1/2W METAL OXIDE (NB)
CAPACITORS		
C359 ~362	2531025002	0.022μF +80,-20% 50V CERAMIC
C501	2544009002	47μF ±20% 10V ELECTROLYTIC
C502	2544161034	330μF ±20% 6.3V ELECTROLYTIC
C603	2531053003	0.01μF +100,-0% 500V CERAMIC
C608, 609	2546063004	15000μF/15000μF 63V ELECTROLYTIC
C610	2544063035	100μF ±20% 80V ELECTROLYTIC
C611	2544089006	1μF ±20% 50V ELECTROLYTIC
C633, 634	2531053003	0.01μF +100,-10% 500V CERAMIC
C631, 632	2531024003	0.01μF +80,-20% 50V CERAMIC
FUSE		
F301 ~304	2061040036	FUSE (F5A) SEMKO MINI
F601	2061015074	FUSE (T.15A) SEMKO MINI
OTHER PARTS		
	2221092109 EP-5667H1 2050008120 2050185054 2050185038 2050190036 2050122033 2050087039 2090052008 2034163063 2034193046 4120952102 2050144008 2050178003 4730354019 5130934009	P.W. BOARD TERMINAL PIN USED 26 JUMPER WIRE P=10mm USED 5 5P WIRE HOLDER 3P WIRE HOLDER 3PNII CONNECTOR BASE USED 3 3P CONNECTOR PIN ASS'Y USED 2 3P TERMINAL USED 3 JUMPER D1.6 Ø=20mm USED 3 3P CONNECTOR CORD 3P CONNECTOR CORD CONDENSER BRACKET 8P TERMINAL EARTH PLATE TAPPING SCREW (2) 3x8 USED 4 FUSE LABEL

Ref. No.	Part No.	Part Name & Descriptions
(IR901)J5	2020022008 2030226027 2050008120	FUSE HOLDER USED 10 1P CONTACT ASS'Y JUMPER IWRE P=10mm

ETC0740M E1 for Asia
(Same as ETC0740B except the followings.)

Ref. No.	Part No.	Part Name & Descriptions
CAPACITORS		
C631, 632	2531024003	0.01μF +80,-20% 50V CERAMIC (DELETE)
C633, 634	2531053003	0.01μF +100,-0% 500V CERAMIC (DELETE)
C359 ~362	2531025002	0.022μF +80,-20% 50V CERAMIC (DELETE)
OTHER PARTS		
	5130934009 2020022008 2061015087 2030226027	FUSE LABEL FUSE HOLDER USED 8 (CHANGE) FUSE (4A) (DELETE) 1P CONTACT ASS'Y (DELETE)

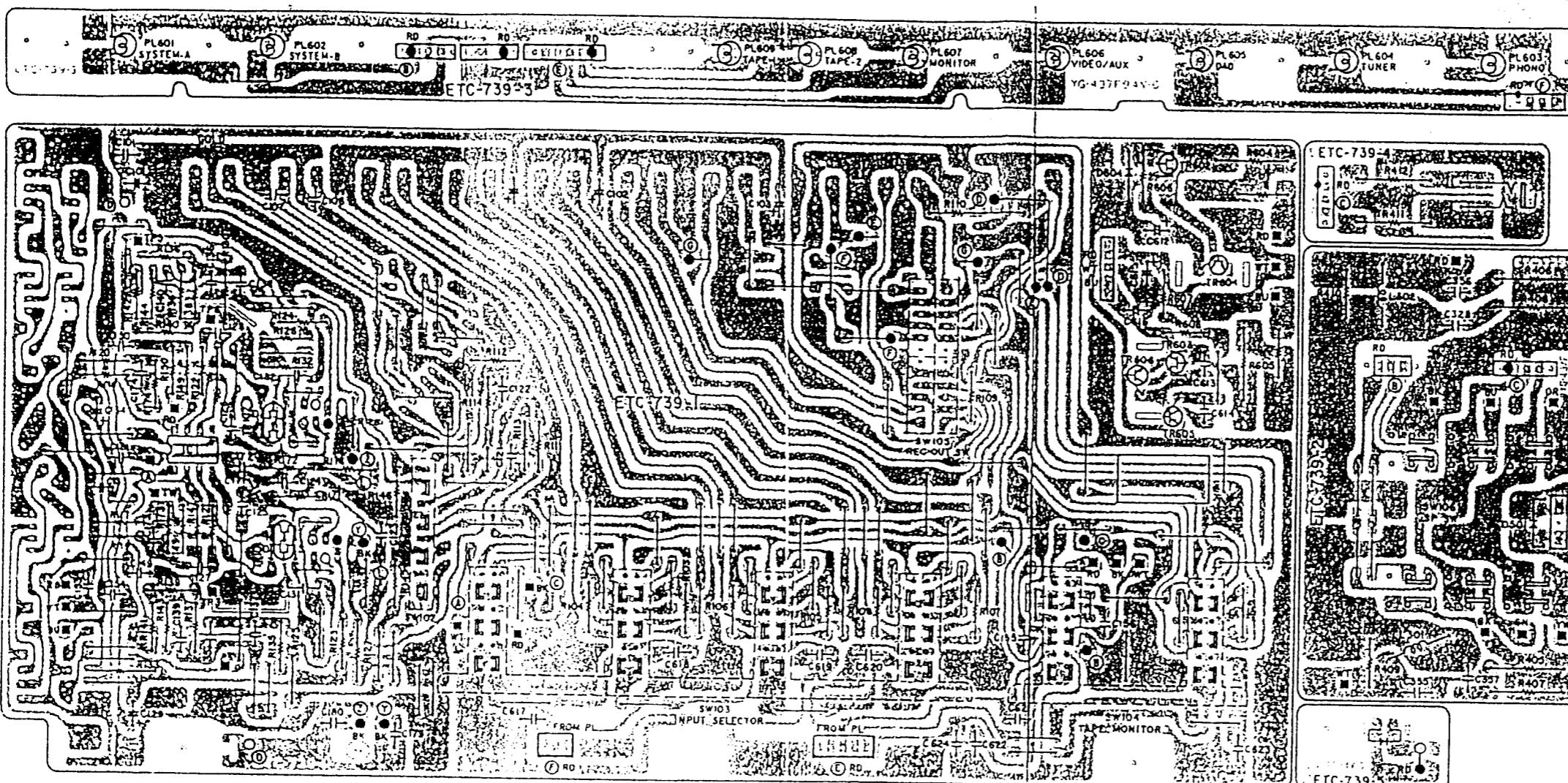
ETC0740N E3 for U.S.A., & EC for Canada
(Same as ETC0740B except the followings.)

Ref. No.	Part No.	Part Name & Descriptions
CAPACITORS		
C633, 634	2531053003	0.01μF +100,-0% 500V CERAMIC (DELETE)
C631, 632	2531024003	0.01μF +80,-20% 50V CERAMIC (DELETE)
C359 ~362	2531025002	0.022μF +80,-20% 50V CERAMIC (DELETE)
OTHER PARTS		
F301 ~304	2061046027	FUSE 5A (UL) (CHANGE)
F601	2061046001 2030226027 (IR901)J5 2412321032	FUSE 6.3A (UL) (CHANGE) 1P CONTACT ASS'Y (DELETE) 4.7 ohm ±5% 1/4W CARBON (NB)
	5130854037 5130854011	FUSE LABEL FUSE LABEL USED 4 (ADDI)

ETC0740P EA for Australia & EK for U.K.
(Same as ETC0740B except the followings.)

Ref. No.	Part No.	Part Name & Descriptions
CAPACITORS		
C633, 634	2531053003	0.01μF +100,-0% 500V CERAMIC (DELETE)
C631, 632	2531024003	0.01μF +80,-20% 50V CERAMIC (DELETE)
C359 ~362	2531025002	0.022μF +80,-20% 50V CERAMIC (DELETE)
OTHER PARTS		
F601	2030226027	1P CONTACT ASS'Y (DELETE)
F602	2061015087 2061015087	FUSE (T.4A) MINISEMKO (ADDI) FUSE (T.4A) MINISEMKO (ADDI)

• PMA-757
ETC0739B INPUT & EQ. UNIT



• PMA-757
ETC0738B TONE & POWER UNIT PARTS LIST

Ref. No.	Part No.	Part Name & Descriptions
SEMICONDUCTORS		
TR221, 222	2750046008	2SK170(BL)/(VIDVGS FET
IC301 ~304	2630257001	M-5218P (MITSUBISHI) IC
TR201, 202	2750046008	2SK170(BL)/(VIDVGS FET
TR203 ~206	2730235020	2SC1841(E/F) TRANSISTOR
TR207 ~210	2710131021	2SA988(E/F) TRANSISTOR
TR211, 212	2730235020	2SC1841(E/F) TRANSISTOR
TR213, 214	2730307000	2SC2229(O)/(Y) TRANSISTOR
TR215, 216	2710185006	2SA949(O)/(Y) TRANSISTOR
TR301, 302	2730198015	2SC1815(BL) TRANSISTOR
TR303, 304	2730307000	2SC2229(O)/(Y) TRANSISTOR
TR305, 306	2710185006	2SA949(O)/(Y) TRANSISTOR
TR307, 308	2730226042	2SC2275(O)/(P) TRANSISTOR
TR309, 310	2710123042	2SA985(O)/(P) TRANSISTOR
D205 ~210	2760049008	1S2076 DIODE
D301 ~304	276025301	HZ15.2 ZENER
D305 ~308	2760049008	1S2076 DIODE
D309, 310	2760388002	MV-1YH DIODE
D311, 312	2760236031	HZ5C-1 ZENER
D317 ~336	2760049008	1S2076 DIODE
RESISTORS (not included Carbon ±5%, 1/4W Type)		
R209, 210	2420203003	10M ohm ±10% 1/4W CARBON COMPOSIT
R211 ~215	2412314023	470 ohm ±5% 1/4W CARBON (NB)
R212 ~216	2412314023	470 ohm ±5% 1/4W CARBON (NB)
R213 ~217	2412315047	750 ohm ±2% 1/4W CARBON (NB)
R214 ~218	2412318024	150 ohm ±2% 1/4W CARBON (NB)
R215 ~219	2410055024	150 ohm ±5% 1/4W METAL OXIDE
R216 ~220	2412315020	320 ohm ±2% 1/4W CARBON (NB)
R217 ~221	2412221018	220 ohm ±5% 1/4W CARBON (NB)
R390, 391, 395, 396	2090008120	JUMPER WIRE P=10mm

Ref. No.	Part No.	Part Name & Descriptions
CAPACITORS (not included Ceramic ±5%, ±10%, 50V Type)		
C201, 202	2551122040	0.1μF ±5% 50V PLASTIC FILM
C203, 204	2551122037	0.082μF ±5% 50V PLASTIC FILM
C207, 208	2551120000	0.001μF ±5% 50V PLASTIC FILM
C209, 210	2551120084	0.0047μF ±5% 50V PLASTIC FILM
C213, 214	2544146004	1μF ±20% 50V ELECTROLYTIC
C215, 216	2554079048	0.01μF ±5% 100V PLASTIC FILM
C217, 218	2534269001	10pF ±0.5pF 500V CERAMIC
C219, 220	2544181001	1μF ±20% 100V ELECTROLYTIC
C223, 224	2551121009	0.0068μF ±5% 50V PLASTIC FILM
C225, 226	2551122011	0.056μF ±5% 50V PLASTIC FILM
C229, 230	2551120013	0.0012μF ±5% 50V PLASTIC FILM
C231, 232	2551121096	0.039μF ±5% 50V PLASTIC FILM
C233, 234	2551122095	0.27μF ±5% 50V PLASTIC FILM
C239, 240	2543016067	10μF ±20% 50V ELECTROLYTIC (B.POLE)
C241, 243	2544181001	1μF ±20% 100V ELECTROLYTIC
C243 ~304	2544181001	1μF ±20% 100V ELECTROLYTIC
C301	2544089002	100μF ±20% 50V ELECTROLYTIC

Ref. No.	Part No.	Part Name & Descriptions
CAPACITORS		
C106, 107	2533639001	330pF ±5% 50V CERAMIC (DELETE)
C121, 122	2531024003	0.01μF +80.-20% 50V CERAMIC (DELETE)
C125, 126	2533645008	560pF ±5% 50V CERAMIC (DELETE)
C127, 128	2551120084	0.0047μF ±5% 50V PLASTIC FILM (CHANGE)
C155, 156	2533643000	470pF ±5% 50V CERAMIC (DELETE)
C171, 172	2533636004	240pF ±5% 50V CERAMIC (DELETE)
C173, 174	2533627000	100pF ±5% 50V CERAMIC (DELETE)
C175	2533629008	120pF ±5% 50V CERAMIC (DELETE)
OTHER PARTS		
	2030225073	1P CONTACT ASS'Y (DELETE)
	2048059008	DIN JACK (5P) (DELETE)
	2090008120	JUMPER WIRE USED 102 (CHANGE)

Ref. No.	Part No.	Part Name & Descriptions
OTHER PARTS		
	2030225073	1P CONTACT ASS'Y (DELETE)
	2048059008	DIN JACK (5P) (DELETE)
	2090008120	JUMPER WIRE USED 102 (CHANGE)

ETC0739P EA for Australia and EK for U.K.
(Same as ETC0739B except the followings.)

Ref. No.	Part No.	Part Name & Descriptions
RESISTORS		
R121, 122	2412090004	820 ohm ±5% 1/4W CARBON (CHANGE)
R149, 150	2412068007	100 ohm ±5% 1/4W CARBON (CHANGE)
R171, 172	2090008120	JUMPER WIRE P=10mm (CHANGE)

Ref. No.	Part No.	Part Name & Descriptions
CAPACITORS		
C106, 107	2533639001	330pF ±5% 50V CERAMIC (DELETE)
C155, 156	2533643000	470pF ±5% 50V CERAMIC (DELETE)
C125, 126	2533645008	560pF ±5% 50V CERAMIC (DELETE)
C127, 128	2551120084	0.0047μF ±5% 50V PLASTIC FILM (CHANGE)
C121, 122	2531024003	0.01μF +80.-20% 50V CERAMIC (DELETE)
C171, 172	2531054031	0.0012μF ±5% 50V CERAMIC (DELETE)
C173, 174	2533627000	100pF ±5% 50V CERAMIC (DELETE)
C176	2533631009	150pF ±5% 50V CERAMIC (DELETE)
C175	2533629008	120pF ±5% 50V CERAMIC (DELETE)
OTHER PARTS		
	2030225073	1P CONTACT ASS'Y (DELETE)
	2090008120	JUMPER WIRE P=10mm USED 102 (CHANGE)

ETC0739M E1 for Asia
(Same as ETC0739B except the followings.)

Ref. No.	Part No.	Part Name & Descriptions
RESISTORS		
R109, 110	2412156003	470k ohm±5% 1/4W CARBON (DELETE)
R121, 122	2412090004	820 ohm ±5% 1/4W CARBON (CHANGE)
R149, 150	2412068007	100 ohm ±5% 1/4W CARBON (CHANGE)
R171, 172	2090008120	JUMPER WIRE P=10mm (CHANGE)
CAPACITORS		
C106, 107	2533639001	330pF ±5% 50V CERAMIC (DELETE)
C155, 156	2533643000	470pF ±5% 50V CERAMIC (DELETE)
C125, 126	2533645008	560pF ±5% 50V CERAMIC (DELETE)
C127, 128	2551120084	0.0047μF ±5% 50V PLASTIC FILM (CHANGE)
C121, 122	2531024003	0.01μF +80.-20% 50V CERAMIC (DELETE)
C171, 172	2531054031	0.0012μF ±10% 50V CERAMIC (DELETE)
C173, 174	2533627000	100pF ±5% 50V CERAMIC (DELETE)
C176	2533631009	150pF ±5% 50V CERAMIC (DELETE)
C175	2533629008	120pF ±5% 50V CERAMIC (DELETE)
OTHER PARTS		
	2030225073	1P CONTACT ASS'Y (DELETE)
	2090008120	JUMPER WIRE P=10mm USED 102 (CHANGE)

ETC0738B TONE & POWER UNIT

NOTE: "*" parts not used for E2 model.

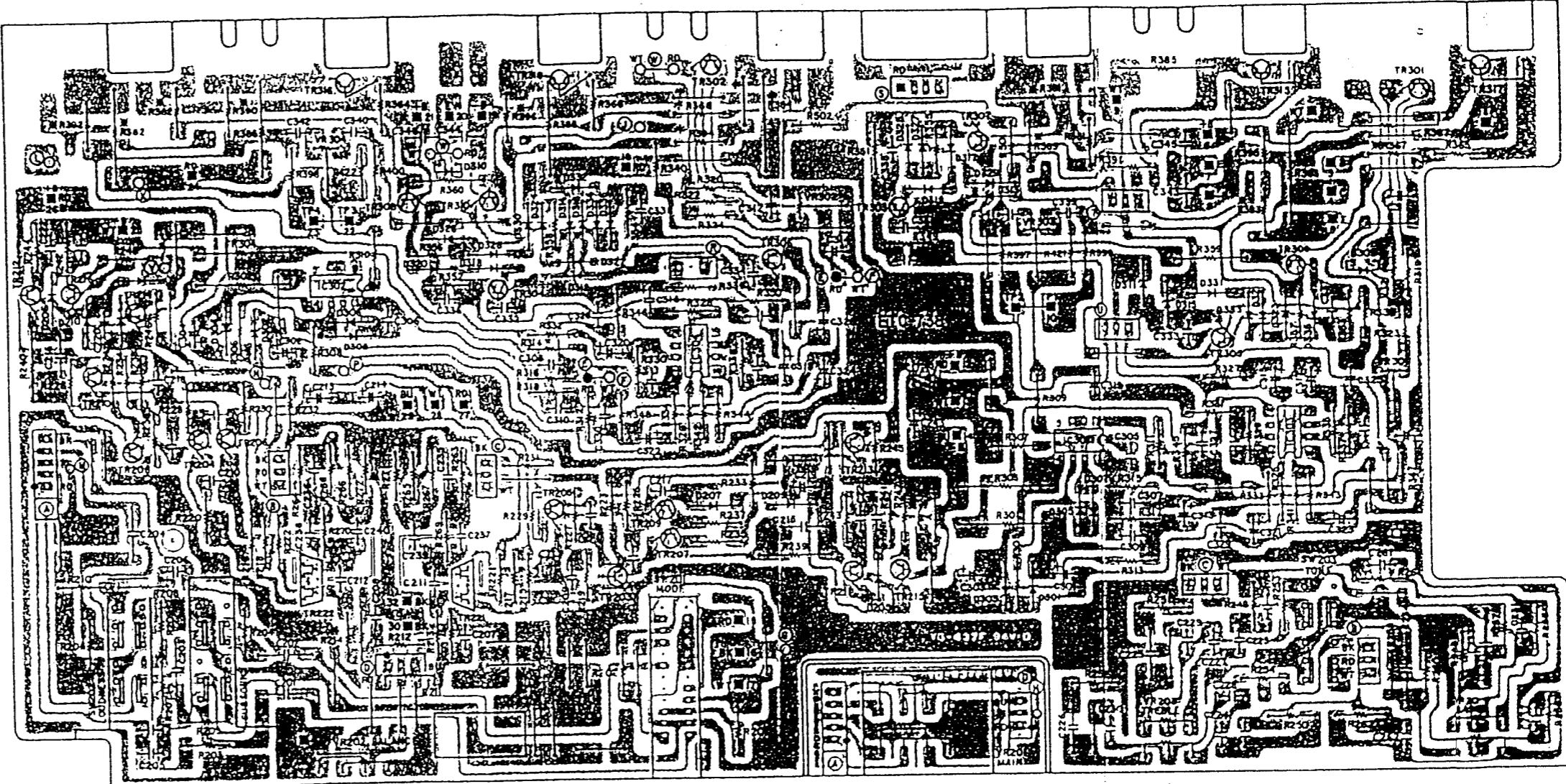
Ref. No.	Part No.	Part Name & Descriptions
E11	2544146004	1μF ±20% 50V ELECTROLYTIC
E26	2551120026	0.0015μF ±5% 50V PLASTIC FILM
E27	2534482008	33pF ±5% 500V CERAMIC
E30	2551121025	0.01μF ±5% 50V PLASTIC FILM
E31	2561030070	0.1μF ±5% 100V PLASTIC FILM
E34		
E39		
E42		
E43		
E46		

SWITCHES

W201	2120221000	ROTARY SWITCH MODE
W202	2124511004	2P PUSH SWITCH LOUD, SUB
W203	2124462001	1P PUSH SWITCH DIRECT

OTHER PARTS

2221090101	P.W. BOARD
EP-5667H1	TERMINAL PIN USED 40
2090008120	JUMPER WIRE P-10mm USED 50
2030230039	1P CONNECTOR
2050185038	3P WIRE HOLDER USED 6
2050185041	4P WIRE HOLDER
2050185054	5P WIRE HOLDER USED 2
4711303018	3x6 CPS USED 2
4756006008	3N USED 2

ETC0738M E1 for Asia
(Same as ETC0738B except the followings.)

Ref. No.	Part No.	Part Name & Descriptions
SEMICONDUCTORS		
D313 ~316	2760236031	HZ5C-1 ZENER (ADD)
RESISTORS		
R219, 220	2412065000	75 ohm ±5% 1/4W CARBON (CHANGE)
R381	2412321032	75 ohm ±5% 1/4W CARBON (NB) (ADD)
R382	2412023003	22 ohm ±5% 1/4W METAL IN (ADD)
R383	2412321016	22 ohm ±5% 1/4W CARBON (NB) (ADD)
R384		

ETC0738N E3 for U.S.A., and EC for Canada
(Same as ETC0738B except the followings.)

Ref. No.	Part No.	Part Name & Descriptions
SEMICONDUCTORS		
D313 ~316	2760236031	HZ5C-1 ZENER (ADD)
RESISTORS		
R219, 220	2412065000	75 ohm ±5% 1/4W CARBON (CHANGE)
R381	2412321032	75 ohm ±5% 1/4W CARBON (NB) (ADD)
R382	2412023003	22 ohm ±5% 1/4W METAL IN (ADD)
R383	2412321016	22 ohm ±5% 1/4W CARBON (NB) (ADD)
CAPACITORS		
C241, 243	2544203002	1μF ±20% 160V ELECTROLYTIC (CHANGE)

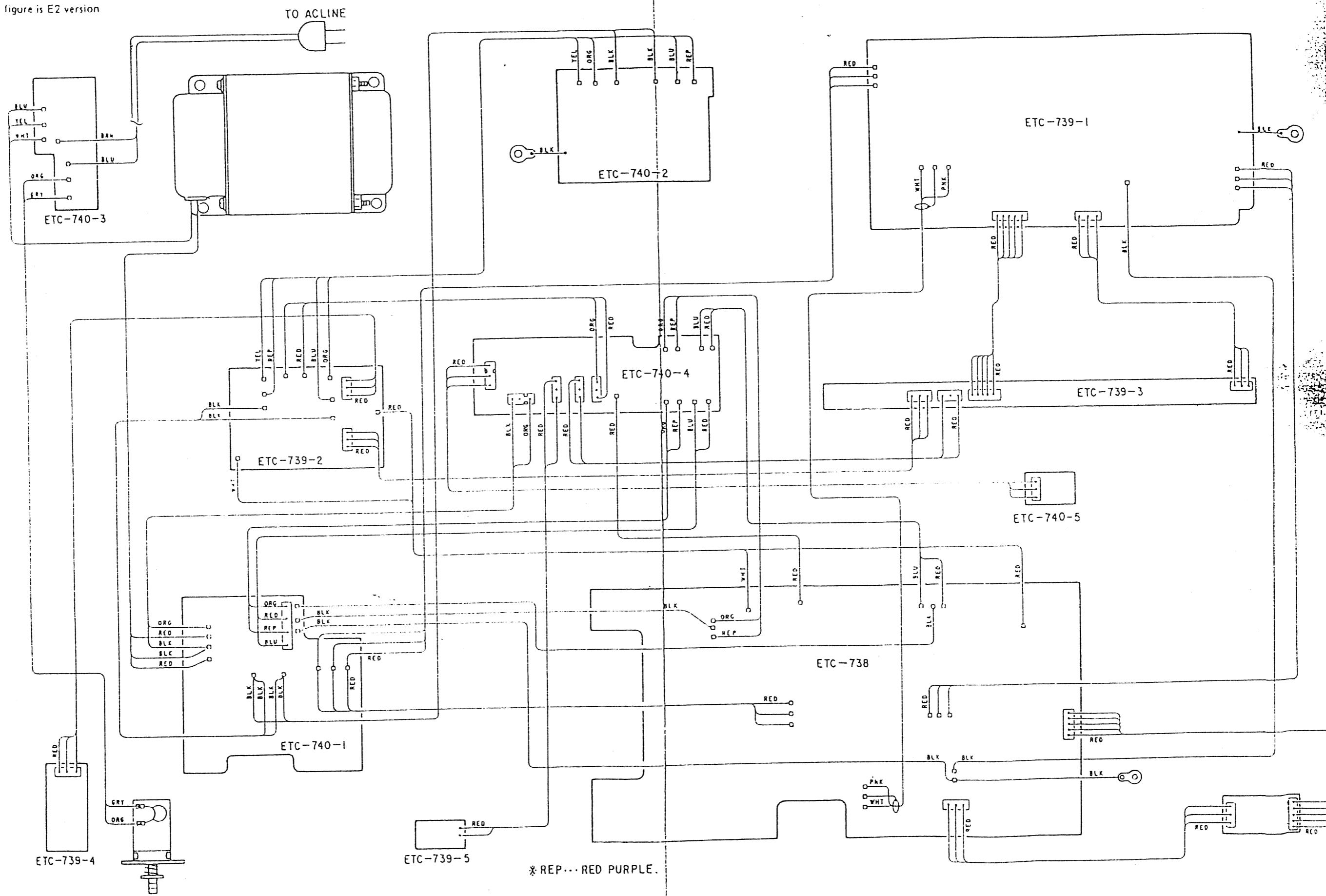
ETC0738P EA for Australia and EK for U.K.
(Same as ETC0738B except the followings.)

Ref. No.	Part No.	Part Name & Descriptions
SEMICONDUCTORS		
D313 ~316	2760236031	HZ5C-1 ZENER (ADD)
RESISTORS		
R219, 220	2412065000	75 ohm ±5% 1/4W CARBON (CHANGE)
R381	2412321032	75 ohm ±5% 1/4W CARBON (NB) (ADD)
R382	2412023003	22 ohm ±5% 1/4W METAL IN (ADD)
R383	2412321016	22 ohm ±5% 1/4W CARBON (NB) (ADD)

CONNECTION DIAGRAM

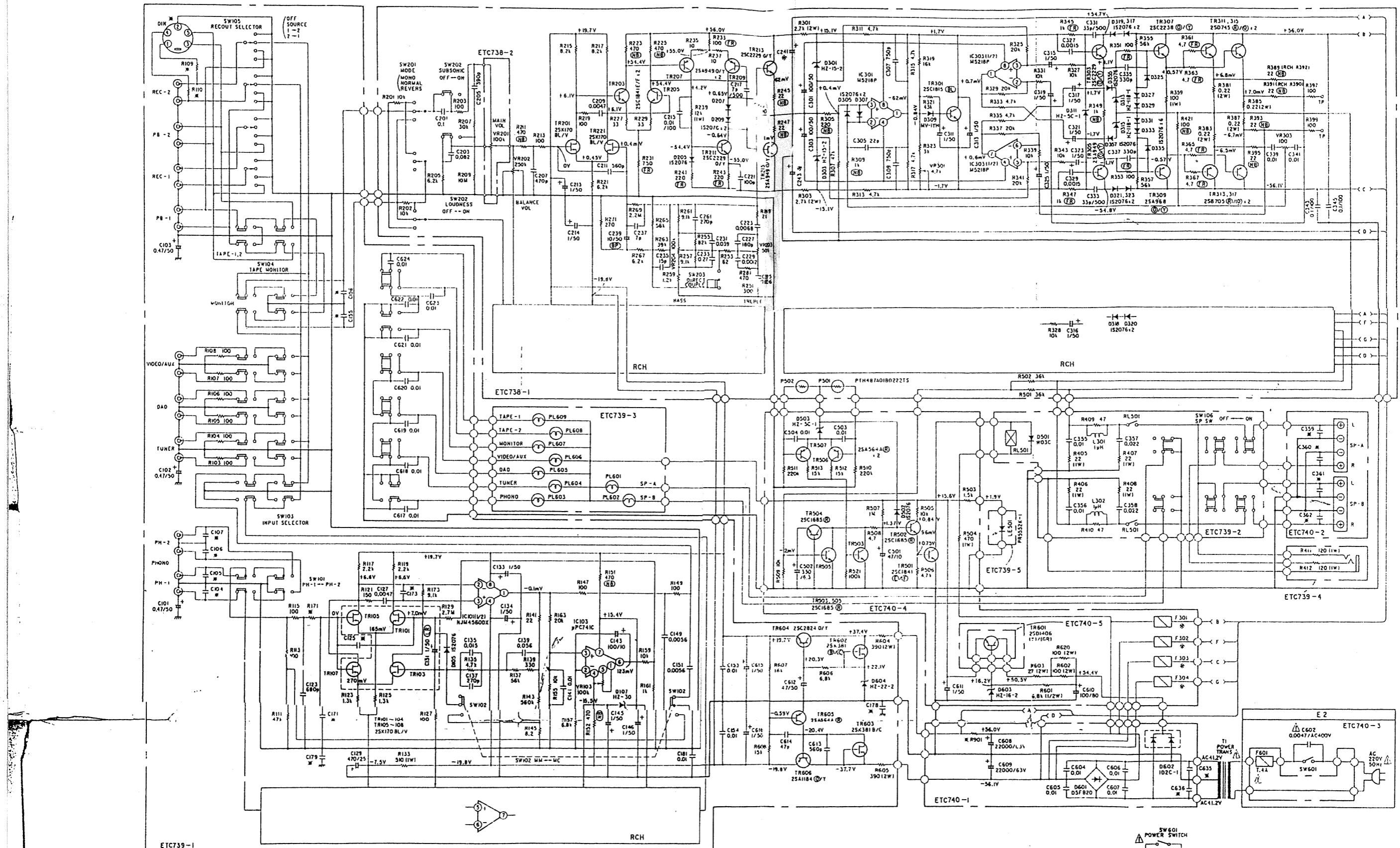
• PMA-757

This figure is E2 version

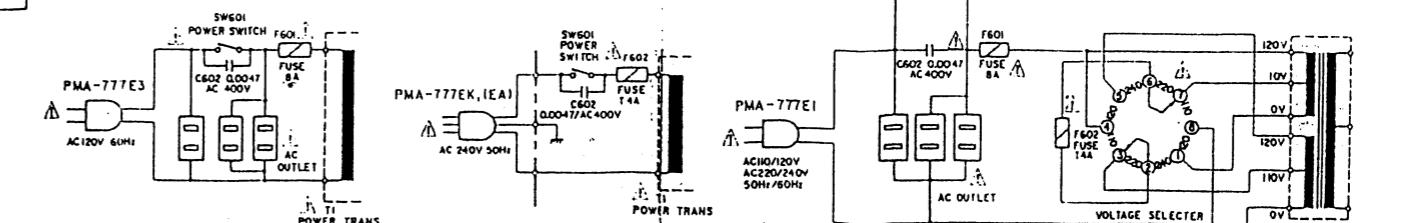


PMA-777 WIRING DIAGRAM

 Means important safety item, which must be replaced, when necessary, by a part specified or meeting the specification by the manufacturer.



	ETC - 739												ETC - 738			ETC - 740		
	DIN R105 R110	C155 C156	C104 C107	C173 C174	C125 C126	C178 C179	C180	R171 R172	C171 C172				C241 C243		C359 C362	C635 C636	R901 F301	F304
E2	INCLUDE 4701	4709	4309	479	560p	0.01	4.7	240p					1/100		0.01	0.1/ AC250V	JUMPER	F6.3A
E3 (E1)	—	—	—	—	—	—	—	JUMPER	—				1/100 1/1000		—	—	4.7/ (10) (JUMPER)	6.3A (F6.3A)
E4, EA	INCLUDE 4704	—	—	—	—	—	—	JUMPER	—				1/100		—	—	JUMPER	F6.3A

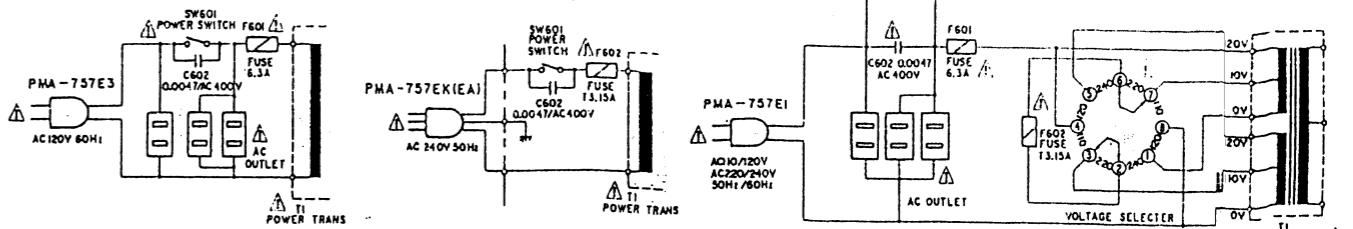
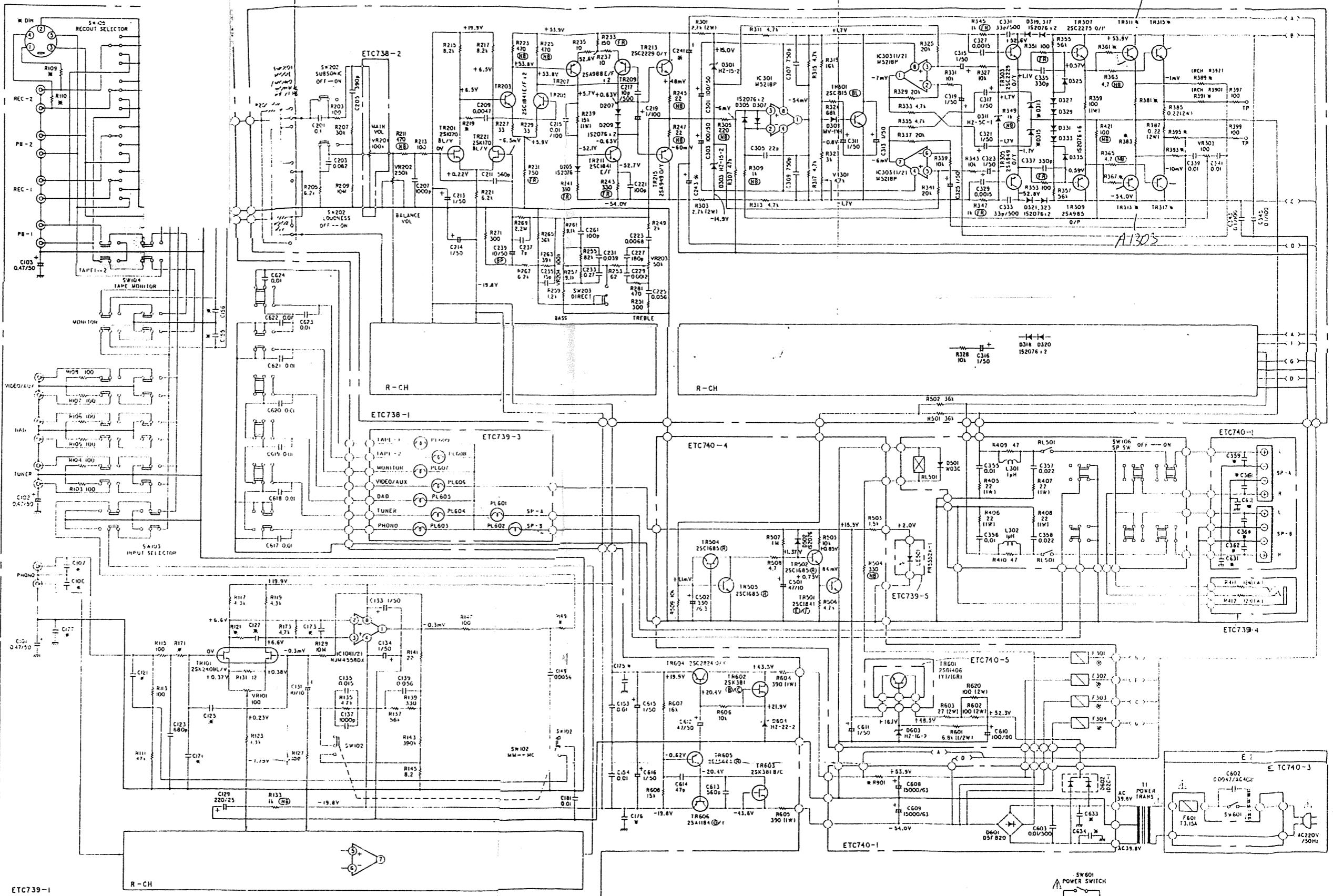


NOTES
ALL RESISTANCE VALUES IN OHM K - 1,000 OHM M - 1,000,000 OHM
ALL CAPACITANCE IN MICRO-
FARADS

PMA-757 WIRING DIAGRAM

745

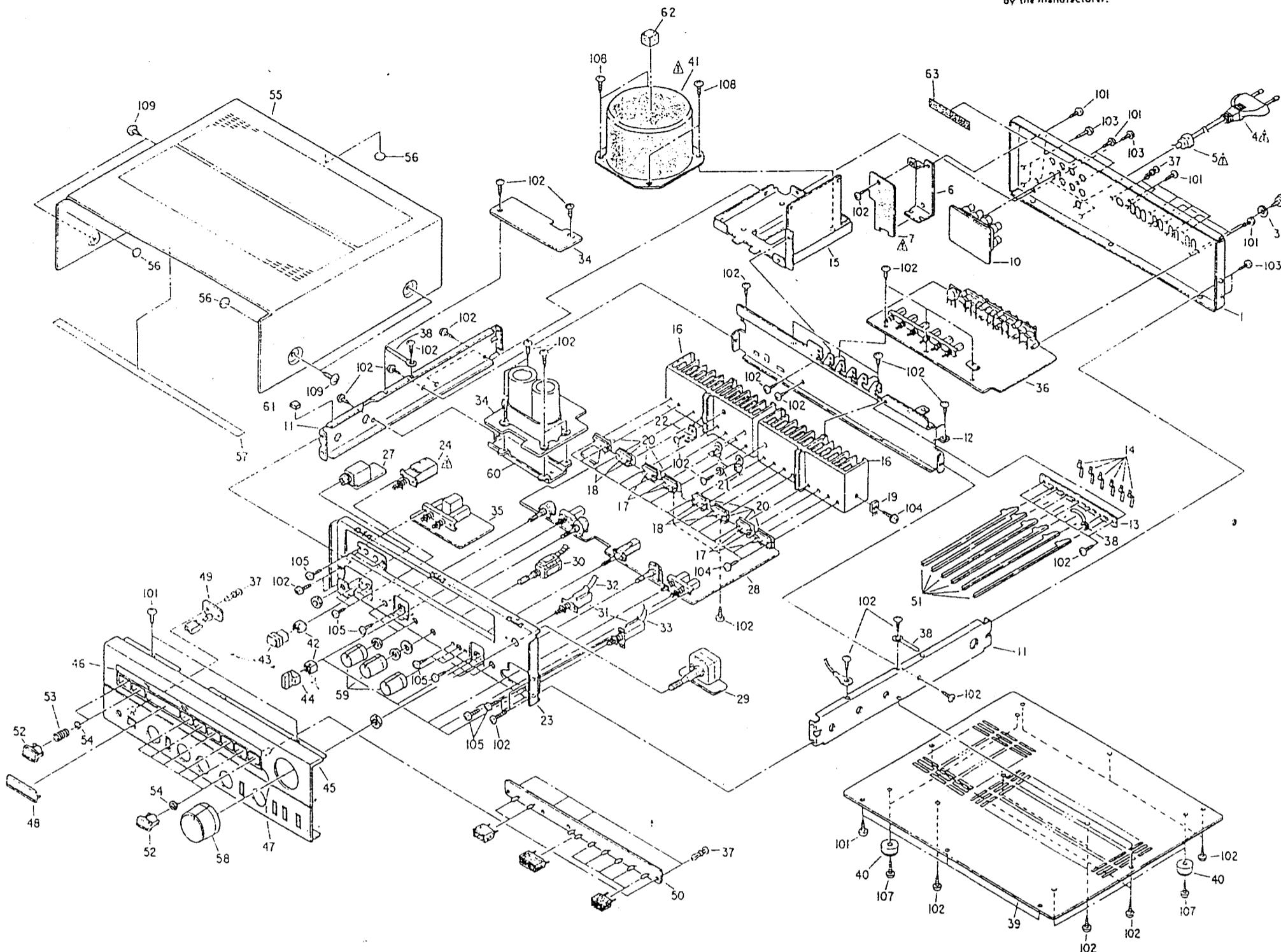
17 APR 10 2004



NOTES:
ALL RESISTANCE VALUES IN OHM, K = 1,000 OHM, M = 1,000,000 OHM.
ALL CAPACITANCE VALUES IN MICROFARAD, P = MICRO-MICRO FARAD
EVERY VOLTAGES AND CURRENTS IS MEASURED AT NO SIGNAL INPUT CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

EXPLODED VIEW OF CHASSIS AND CABINET
• PMA-777

Means important safety item, which must be observed when necessary, by a part specified or meeting the same function by the manufacturer.



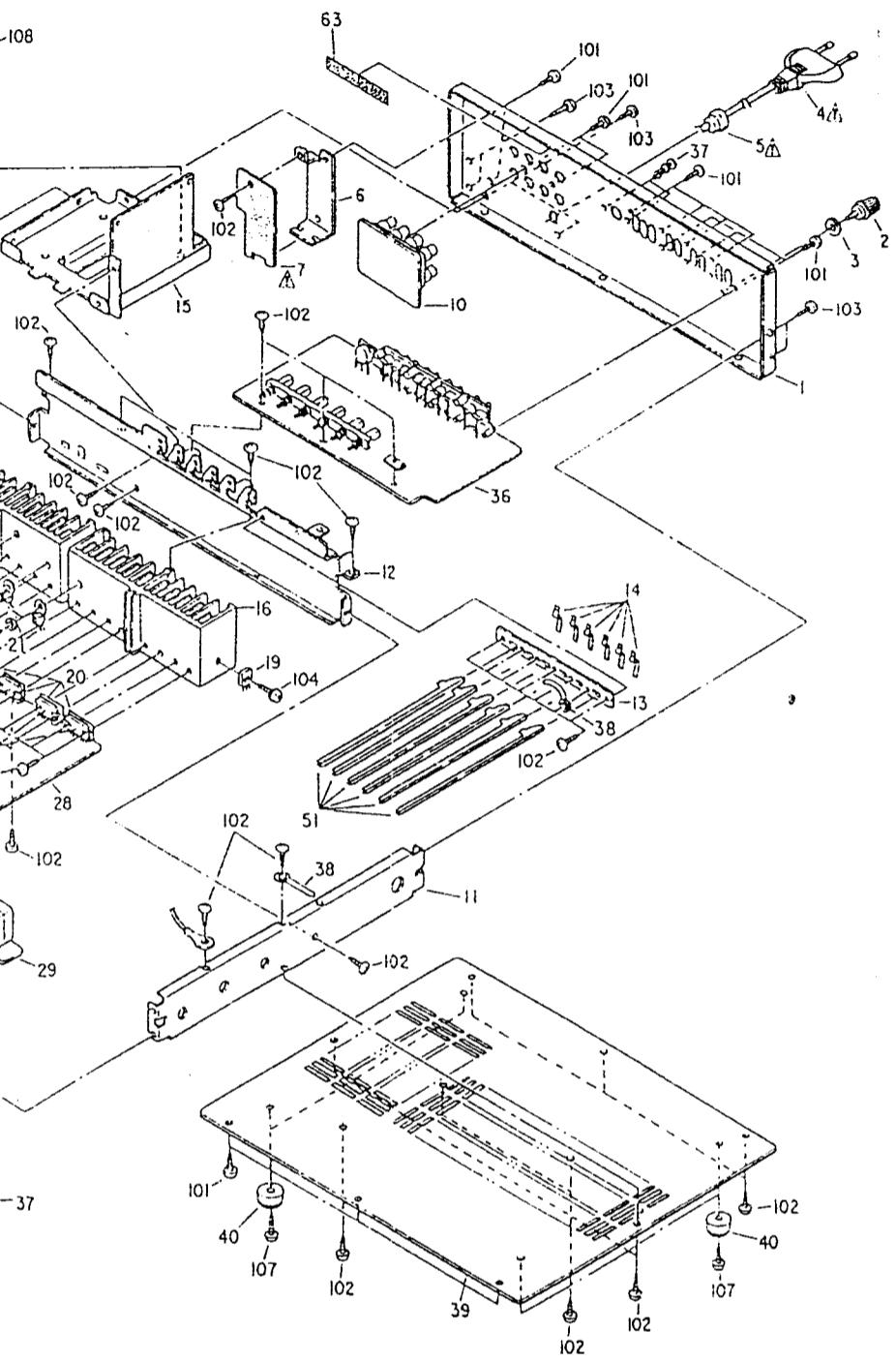
Note: 1. See addendum list below for the parts with asterisk (*) on the Ref. No. and the other parts not included in this list.
2. The list is prepared based on E2 Silver Version.
3. * Marked not included EXPLODED VIEW.
4. o Marked same as PMA-757E2.

EXPLODED VIEW OF PARTS LIST

Ref. No.	Part No.	Part Name & Descriptions	Ref. No.	Part No.	Part Name & Descriptions	Ref. No.	Part No.	Part Name & Descriptions	Ref. No.	Part No.	Part Name & Descriptions
* 1	1050626307	BACK PANEL	* 29	ETC0738-2	MAIN VR UNIT	* 56	1040034006	STOPPER	* 101	4730354035	TAPPING SCREW (2) 3x8 (BLACK)
* 2	2050071016	TERMINAL ASS'Y	* 30	2120222009	ROTARY REMOTE	* 57	1220069008	SPACER	* 102	4730354019	TAPPING SCREW (2) 3x8
* 3	4770018001	WASHER (P-87)	* 31	2124484005	IP-PUSH REMOTE	* 58	1120415011	KNOB (A)	* 103	4700641019	FIXING SCREW
* 4	4770018002	CORD HOLDER	* 32	4350052005	FLEXIBLE SLIDER (MM-MC)	* 59	1120416010	KNOB (B)	* 104	4700011023	PAN SCREW WITH W. SPW 3x10
* 5	4410455005	PWB BRACKET	* 33	4350052021	FLEXIBLE SLIDER (PHONO 1-2)	* 60	4120952102	CONDENSER BRACKET	* 105	4711303018	PAN SCREW 3x6
* 6	5130716023	FTZ LABEL	* 34	ETC0740	P.S & PROT. UNIT	* 61	4610223024	RUBBER SHEET	* 106	4730804035	TAPPING SCREW (2) 3x14
* 7	5138253009	APPROVAL MARK	* 35	ETC0739-2	SPEAKER SW UNIT	* 62	4610223011	RUBBER SHEET	* 107	4700031016	TAPPING SCREW WITH TWB 4x10
* 8	ETC0740-2	SP TERMINAL UNIT	* 36	ETC0739-1	INPUT & EQ. UNIT	* 63	1220069066	SPACER	* 108	4734801005	TAPPING SCREW (TRUS) 4x8
* 9	4120733606	SIDE CHASSIS	* 37	4770096007	PUSH RIVET						
* 10	4110375317	MAIN CHASSIS	* 38	EP-6214	CORD HOLDER						
* 11	4410378108	SPRING	* 39	1050450609	BOTTOM COVER						
* 12	463037000	TRANS CHASSIS ASS'Y	* 40	1040110001	FOOT						
* 13	4110334206	POWER RADIATOR	* 41	12315488007	POWER TRANSFORMER						
* 14	41103753401	TRANSISTOR 2SD745(R/C)	* 42	1140056007	FLEXIBLE RING						
* 15	2740102004	TRANSISTOR 2SB705(R/O)	* 43	1130515134	PUSH KNOB (A)						
* 16	2720073001	TRANSISTOR 2SD1406(Y//GR)	* 44	1130450118	PUSH KNOB (B) ASS'Y						
* 17	2740088018	INSULATING SHEET (S-27)	* 45	1441257000	FRONT PANEL ASS'Y						
* 18	4150291008	POSISTOR (PTH487A018D222TS)	* 46	1430297013	WINDOW						
* 19	2760289004	PCB BRACKET	* 47	1460556106	WINDOW PANEL						
* 20	4410411104	FRONT CHASSIS	* 48	1441256001	ESC. PLATE						
* 21	4410429302	PUSH SWITCH FOR P/SW FNC	* 49	ETC0739-5	LED UNIT						
* 22	4450033005	CAPACITOR 1400PF 100VAC	* 50	ETC0739-3	LAMP UNIT						
* 23	ETC0739-4	WIRE CLAMP BAND USED 36	* 51	4121069007	CONNECTING BRACKET						
* 24	4450033006	HEADPHONE JACK UNIT	* 52	1130415218	PUSH KNOB (C)						
* 25	ETC0738-1	TONE & POWER UNIT	* 53	4630274011	SPRING						
* 26	4450033005	WIRE CLAMP BAND USED 36	* 54	1220039012	SPACER						
* 27	ETC0739-4	HEADPHONE JACK UNIT	* 55	1020183100	TOP COVER						
* 28	ETC0738-1	TONE & POWER UNIT									

PACKING & ACCESSORIES (not included EXPLODED VIEW)

* a.	5040084007	SET COVER
* b.	5030456001	CUSHION
* c.	5111253107	INST. MANUAL
* d.	5139111001	COLOR LABEL (GOLD)
* e.	5130295009	CONTROL CARD
* f.	5010916037	CARTON CASE



 Means important safety item, which must be replaced, when necessary, by a part specified or meeting the specification by the manufacturer.

ADDENDUM LIST

Ref. No.	Part Name & Descriptions	Part No.					
		E1 for Asia		E3 for U.S.A.		EA for Australia	EK for U.K.
		Gold Version	Black Version	Gold Version	Black Version	Gold Version	Black Version
1	BACK PANEL	1059005000	1059005000	1059002003	1059002003	1050626307	1050626307
7	AC FUSE UNIT	-	-	ETC0740-E1	ETC0740-E1	ETC0740-F3	ETC0740-F3
*8	FTZ LABEL	-	-	-	-	-	-
*9	APPROVAL MARK	-	-	-	-	-	-
10	SP TERMINAL UNIT	ETC0740-D2	ETC0740-D2	ETC0740-E2	ETC0740-E2	ETC0740-F2	ETC0740-F2
21	MAIN BOARD	ETC0739-01	ETC0739-01	ETC0739-01	ETC0739-01	ETC0739-01	ETC0739-01
22	HEADPHONE JACK UNIT	ETC0739-04	ETC0739-04	ETC0739-E4	ETC0739-E4	ETC0739-F4	ETC0739-F4
28	TOKE & POWER UNIT	ETC0738-0	ETC0738-0	ETC0738-E	ETC0738-E	ETC0738-F	ETC0738-F
29	MAIN VR UNIT	ETC0738-D2	ETC0738-D2	ETC0738-E2	ETC0738-E2	ETC0738-F2	ETC0738-F2
34	P.S & PROT. UNIT	ETC0740-D	ETC0740-D	ETC0740-E	ETC0740-E	ETC0740-F1	ETC0740-F1
35	SPEAKER SW UNIT	ETC0739-D2	ETC0739-D2	ETC0739-E2	ETC0739-E2	ETC0739-F2	ETC0739-F2
36	INPUT & EQ. UNIT	ETC0739-D1	ETC0739-D1	ETC0739-E1	ETC0739-E1	ETC0739-F1	ETC0739-F1
37	PUSH RIVET	-	-	-	-	4770096007	4770096007
43	PUSH KNOB (A)	1130515134	1130515121	1130515134	1130515121	1130515134	1130515121
44	PUSH KNOB (H) ASS'Y	1130450118	1130636000	1130450118	1130636000	1130450118	1130636000
45	FRONT PANEL ASS'Y	1441257000	1441257026	1441257000	1441257026	1441257000	1441257026
48	ESC. PLATE	1441256001	1441256027	1441256001	1441256027	1441256001	1441256027
49	LED UNIT	ETC0739-05	ETC0739-05	ETC0739-E5	ETC0739-E5	ETC0739-F5	ETC0739-F5
50	LAMP UNIT	ETC0739-03	ETC0739-03	ETC0739-E3	ETC0739-E3	ETC0739-F3	ETC0739-F3
52	PUSH KNOB (C)	1130415218	1130415218	1130415218	1130415221	1130415218	1130415221
55	TOP COVER	1020183100	1020183016	1029001006	1029001018	1020183100	1020183018
58	KNOB (A)	1120415011	1120415024	1120415011	1120415024	1120415011	1120415024
59	KNOB (B)	1120416010	1120416023	1120416010	1120416023	1120416010	1120416023
64	CAPACITOR 0.01 <u>F</u> /50V	-	-	-	-	-	-
101	TAPPING SCREW (2) 3x8	4730354035(22)	4730354035(22)	4730354035(24)	4730354035(24)	4730354035(22)	4730354035(22)
109	TAPPING SCREW (TRUS) 4x8	4734801005(4)	4734454038(4)	4734801005(4)	4734454038(4)	4734801005(4)	4734454038(4)
150	PAN SCREW WITH S.W 3x8	4700042005(4)	4700042005(4)	-	-	-	-
151	BLACK NUT M3	4756006008(2)	4756006008(2)	-	-	-	-
152	WASHER ø5 BLACK	-	-	4751006016(8)	4751006016(8)	-	-
153	TAPPING SCREW (TRUS) 4x20	-	-	4734460035(8)	4734460035(8)	-	-
154	BLACK TOOTH WASHER ø3	-	-	-	-	4753001051(8)	4753001051(8)
155	3T LUG	-	-	-	-	2050003107(1)	2050003107(1)
156	TOOTH WASHER ø4	-	-	-	-	4753100004(8)	4753100004(8)
*205	FUSE LABEL	5130654062	5130654082	-	-	-	-
*206	FUSE LABEL	5130654075	5130654075	-	-	-	-
*208	FUSE LABEL	-	-	5139115007	5139115007	-	-
*209	FUSE LABEL	-	-	513067019	513067019	-	-
210	RUBBER SHEET	-	-	4610066139	4610066139	-	-
*211	DANGEROUS MARK	-	-	5138266009	5138266009	-	-
212	SERIAL NO. PLATE	-	-	5130885022	5130885022	-	-
213	RIVET	-	-	4770126016	4770126016	-	-
214	WOOD BOARD (R)	-	-	1011469008	1011469008	-	-
215	WOOD BOARD (L)	-	-	1011470000	1011470000	-	-
216	FELT SHEET	-	-	1240032015	1240032015	-	-
*217	INDICATION SHEET	-	-	5130784000	5130784000	-	-
*218	NOTICE SHEET	-	-	-	-	5130209006	-
*219	NOTICE SHEET	-	-	-	-	5130210008	-
220	VOLTAGE LABEL	-	-	-	-	5130362008	5130362008
221	BLIND SHEET	-	-	-	-	5130348006	5130348006
222	EARTH LABEL	-	-	-	-	5130140000	5130140000
223	CAUTION SHEET	-	-	-	-	5130364006	-
224							
225							
a	SET COVER	5040084007	5040084007	5058092049	5058092049	5040084007	5040084007
b	CUSHION	5030456001	5030456001	5039107005	5039107005	5030456001	5030455001
c	COLOR LABEL (GOLD)	5139111001	-	5139111001	-	5139111001	-
d	CONTROL CARD	-	-	-	-	-	-
e	CARTON CASE	5010916037	50109160	5019104002	5019104031	5010916066	5010916037
g	COLOR LABEL (BLACK)	-	5139111014	-	5139111014	-	5139111014
h	WARRANTY IN ENVELOPE	5158053108	5158053108	5158053108	-	-	-
i	PROTECTOR SHEET	-	-	5040077056	5040077056	-	-
j	SAFETY INSTRUCTION	-	-	5111041005	5111041005	-	-
k	FAU	-	-	-	-	-	-
l	CAUTION PAPER	-	-	-	-	5130211007	-
m	IMPORTANT LABEL	-	-	-	-	-	513037

BLACK VERSION PARTS LIST
(Same as SILVER VERSION except the followings.)

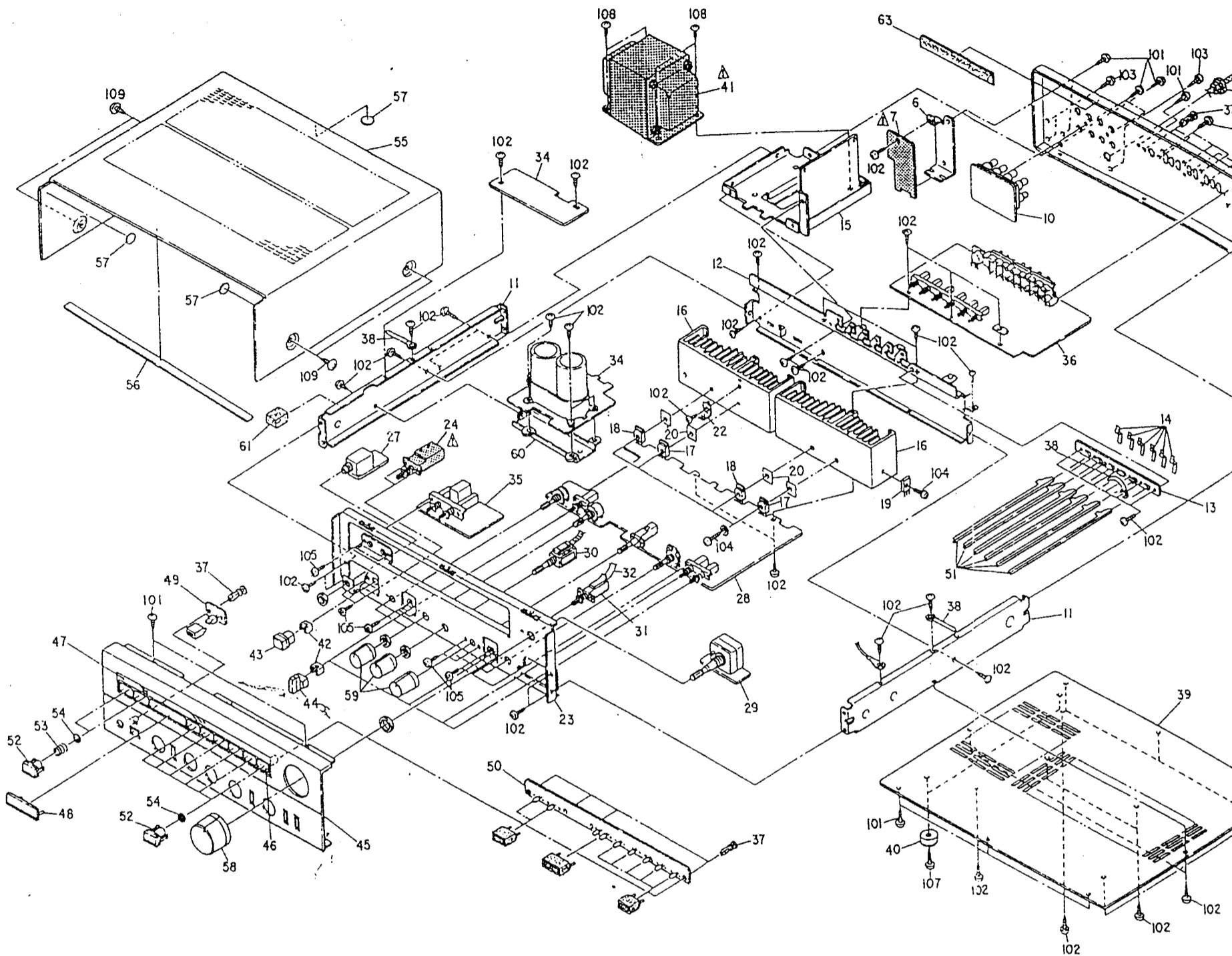
Ref. No.	Part No.	Part Name & Descriptions
43	1130515121	PUSH KNOB (A)
44	1130636000	PUSH KNOB (B)
45	1441257026	FRONT PANEL ASS'Y
48	1441256027	ESC. PLATE
52	1130415221	PUSH KNOB (C)
55	1020183115	TOP COVER
58	1120415024	KNOB (A)
59	1120416023	KNOB (B)
100	4734454038	TAPPING SCREW (2) 4x8
d.	5139111014	COLOR LABEL (BLACK)

PMA-777/787

EXPLODED VIEW OF CHASSIS AND CABINET

- PMA-757

Means important safety item, which when necessary, by a part specified or made by the manufacturer.



Note: 1. See addendum list below for the parts with asterisk (*) on the Ref. No. and the other parts not included in this list.
 2. The list is prepared based on E2 Silver Version.
 3. * Marked not included EXPLODED VIEW.
 4. o Marked same as PMA-777E2.

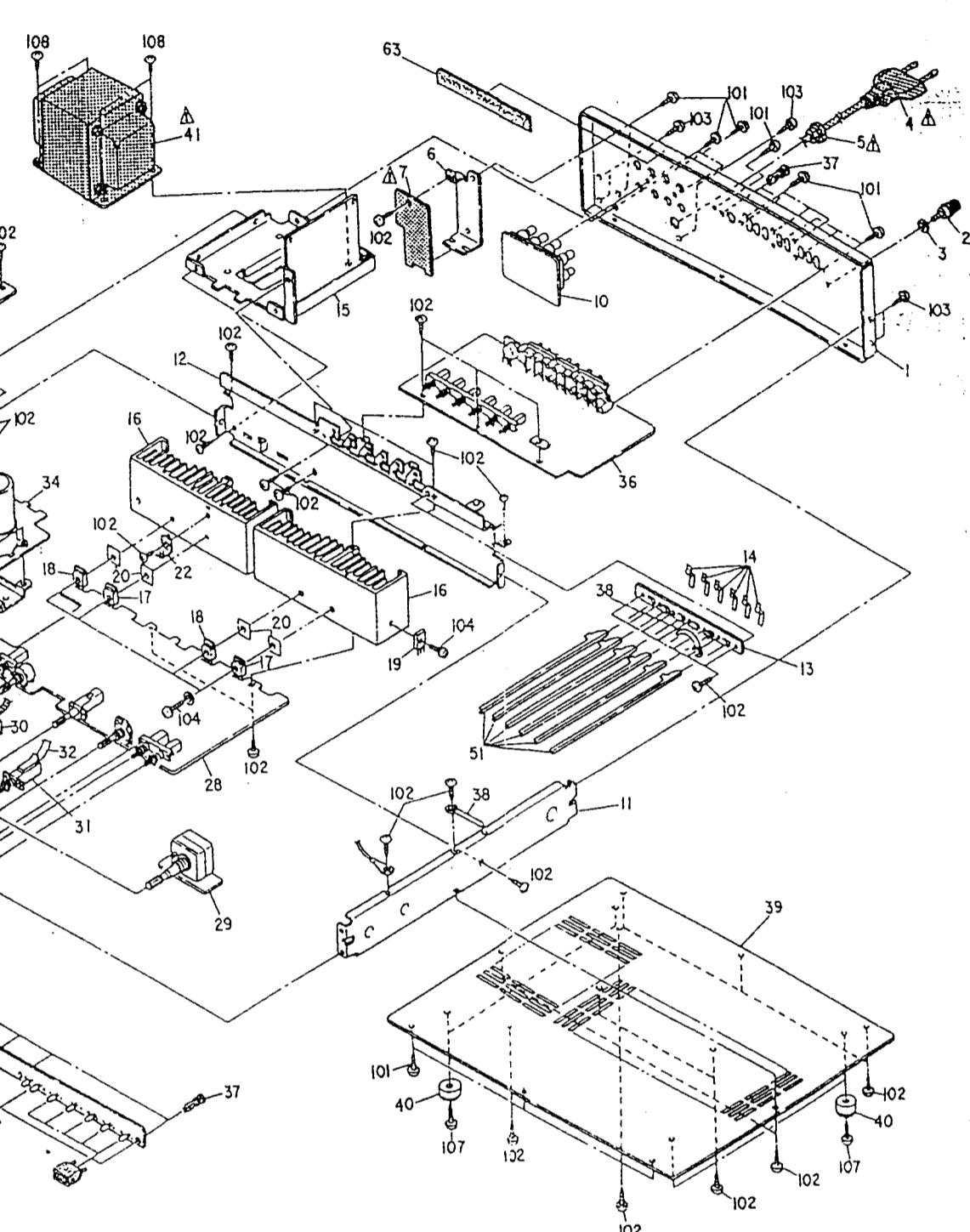
EXPLODED VIEW OF PARTS LIST

Ref. No.	Part No.	Part Name & Descriptions
• 1	1050626310	BACK PANEL
• 2	2050071016	TERMINAL ASS'Y
• 3	477001B001	WASHER (P-87)
• 4	4410455005	PCB BRACKET
• 5	4410455005	PCB BRACKET
• 6	4410455005	PCB BRACKET
• 7	4410455005	PCB BRACKET
• 8	5130716023	FTZ LABEL
• 9	5138253009	APPROVAL MARK
• 10	ETC0740-B2	SP TERMINAL UNIT
• 11	4120733606	SIDE CHASSIS
• 12	4110375317	MAIN CHASSIS
• 13	4410378108	SPRING
• 14	4630370000	TRANS CHASSIS ASS'Y
• 15	4110334206	POWER RADIATOR
• 16	4170156301	TRANSISTOR 2SC3284(O)(Y)
• 17	2730305002	TRANSISTOR 2SA1303(O)(Y)
• 18	2710184007	TRANSISTOR 2SD1406(Y)(IGR)
• 19	2740088018	INSULATING SHEET
• 20	4150234007	—
• 21	—	PCB BRACKET
• 22	4410411104	FRONT CHASSIS
• 23	4110429302	PUSH SWITCH FOR PSW
• 24	4410429302	CAPACITOR (4700PF/400VAC)
• 25	2518003013	WIRE CLAMP BAND USED 36
• 26	4450033005	HEADPHONE JACK UNIT
• 27	ETC0739-B4	—

Ref. No.	Part No.	Part Name & Descriptions
* 28	ETC0738-B1	TONE & POWER UNIT
* 29	ETC0738-B2	MAIN VR UNIT
* 30	2120222009	ROTARY REMOTE
* 31	2124484005	1P.PUSH REMOTE
* 32	4350052005	FLEXIBLE SLIDER (MM, MC)
* 33	—	—
* 34	ETC0740B	P.S & PROT. UNIT
* 35	ETC0739-B2	SPEAKER SW UNIT
* 36	ETC0739-B1	INPUT & EQ. UNIT
* 37	4770096007	PUSH RIVET
* 38	EP-6214	CORD HOLDER USED 6
* 39	1050450609	BOTTOM COVER
* 40	1040110001	FOOT
* 41	4410455005	POWER RADIATOR
* 42	1140056007	FLEXIBLE RING
* 43	1130515134	PUSH KNOB (A)
* 44	1130450118	PUSH KNOB (B) ASS'Y
* 45	1441257013	FRONT PANEL ASS'Y
* 46	1430297013	WINDOW
* 47	1460556106	WINDOW PANEL
* 48	1441256014	ESC. PLATE
* 49	ETC0739-B5	LED UNIT
* 50	ETC0739-B3	LAMP UNIT
* 51	4121069007	CONNECTING BRACKET
* 52	1130415218	PUSH KNOB (C)
* 53	4630274011	SPRING
* 54	1220039012	SPACER

Ref. No.	Part No.	Part Name & Descriptions
* 55	1020183100	TOP COVER
* 56	1220069008	SPACER
* 57	1040034006	STOPPER
* 58	1120415011	KNOB (A)
* 59	1120416010	KNOB (B)
* 60	4120952102	CONDENSER BRACKET
* 61	4610223024	RUBBER SHEET
* 62	—	—
* 63	1220069066	SPACER
* 64	—	—
* 65	—	—
* 66	—	—
* 67	—	—
* 68	—	—
* 69	—	—
* 70	—	—
PACKING & ACCESSORIES (not included EXPLODED VIEW)		
a.	5040084007	SET COVER
b.	5030456001	CUSHION
c.	5111253107	INST. MANUAL
d.	5139111001	COLOR LABEL (GOLD)
e.	5138295009	CONTROL CARD
f.	5010916040	CARTON CASE

Ref. No.	Part No.	Part Name & Descriptions	Q'ty
SCREWS & NUT			
* 101	4730354035	TAPPING SCREW (2) 3x8 (BLACK)	22
* 102	4730354019	TAPPING SCREW (2) 3x8	33
* 103	4770064107	FIXING SCREW	6
104	4700012022	PAN SCREW WITH W. SPW 3x12	5
* 105	4711303018	PAN SCREW 3x6	12
106	—	—	—
* 107	4730804035	TAPPING SCREW (2) 3x14	4
* 108	4700031016	TAPPING SCREW WITH TWB 4x10	4
* 109	4734801005	TAPPING SCREW (TRUS) 4x8	4



 Means important safety item, which must be replaced, when necessary, by a part specified or meeting the specification by the manufacturer.

ADDENDUM LIST

Ref. No.	Part Name & Description	Part No.					
		E1 for Asia		E3 for U.S.A.		EC for Canada	EA for Australia
		Gold Version	Black Version	Gold Version	Black Version	Black Version	Gold Version
1	BACK PANEL	1069004001	1069004001	1069001004	1069001004	1069016002	1060826310
-6	PWB BRACKET	-	-	4410455005	4410455006	4410455005	4410455006
-6	FTZ LABEL	-	-	-	-	-	-
-6	APPROVAL MARK	-	-	-	-	-	-
10	SP TERMINAL UNIT	ETC0740-M2	ETC0740-M2	ETC0740-N2	ETC0740-N2	ETC0740-N2	ETC0740-P2
17	TRANSISTOR	2740103003	2740103003	2740103003	2740103003	2740103003	2740103003
18	TRANSISTOR	2720074000	2720074000	2720074000	2720074000	2720074000	2720074000
20	INSULATIN SHEET	4150234007	4150234007	4150234007	4150234007	4150234007	4150234007
27	HEADPHONE JACK UNIT	ETC0739-M4	ETC0739-M4	ETC0739-N4	ETC0739-N4	ETC0739-N4	ETC0739-P4
28	TONE & POWER UNIT	ETC0738-M	ETC0738-M	ETC0738-N	ETC0738-N	ETC0738-N	ETC0738-P
29	MAIN VU UNIT	ETC0738-M2	ETC0738-M2	ETC0738-N2	ETC0738-N2	ETC0738-N2	ETC0738-P2
34	P.S & PROT. UNIT	ETC0740-M	ETC0740-M	ETC0740-N	ETC0740-N	ETC0740-N	ETC0740-P
35	SPLAKER SW UNIT	ETC0739-M2	ETC0739-M2	ETC0739-N2	ETC0739-N2	ETC0739-N2	ETC0739-P2
36	INPUT & EQ. UNIT	ETC0739-M1	ETC0739-M1	ETC0739-N1	ETC0739-N1	ETC0739-N1	ETC0739-P1
37	PUSH RIVET	-	-	-	-	-	4700906007
43	PUSH KNOB (A)	1130615134	1130615121	1130615134	1130615121	1130515121	1130515134
44	PUSH KNOB (B) ASS'Y	1130450118	1130636000	1130450118	1130636000	1130636000	1130450118
46	FRONT PANEL ASS'Y	1441257013	1441257039	1441257013	1441257039	1441257039	1441257013
48	ESC. PLATE	1441256014	1441256030	1441256014	1441256030	1441256030	1441256014
49	LED UNIT	ETC0739-M6	ETC0739-M6	ETC0739-N6	ETC0739-N6	ETC0739-N6	ETC0739-P5
50	LAMP UNIT	ETC0739-MD	ETC0739-MD	ETC0739-N3	ETC0739-N3	ETC0739-N3	ETC0739-P3
52	PUSH KNOB (C)	1130415218	1130415221	1130415218	1130415221	1130415221	1130415218
56	TOP COVER with Wood Board without Wood Board	1020183006	1020183014	1020183100	1020183016	1020183016	1020183100
58	KNOB (A)	1120415011	1120415024	1120415011	1120415024	1120415024	1120415011
59	KNOB (B)	1120416010	1120416023	1120416010	1120416023	1120416023	1120416010
64	CAPACITOR (1200pF/500V)	-	-	-	-	-	-
101	TAPPING SCREW (2) 3x8	4730354035(21)	4730354035(21)	4730354035(24)	4730354035(24)	4730354035(24)	4730354035(22)
109	TAPPING SCREW (TRUSI 4x8	4734801005(4)	4734801005(4)	4734801005(4)	4734801005(4)	4734801005(4)	4734801005(4)
150	PAN SCREW WITH S.W 3x8 BLACK	4700042005(2)	4700042005(2)	-	-	-	-
151	NUT M3	4756006008(7)	4756006008(7)	-	-	-	-
152	WASHER #5 BLACK	4751006016(18)	-	-	-	-	-
153	TAPPING SCREW (TRUSI) 4x20 BLACK	4734460035(8)	-	-	-	-	-
154	TOOTH WASHER #3	-	-	-	-	-	-
156	JT LUG	-	-	-	-	-	-
158	TOOTH WASHER #4	-	-	-	-	-	-
#205	FUSE LABEL	5130654058	5130654058	-	-	-	-
#206	FUSE LABEL (TS.3A)	5130664091	5130664091	-	-	-	-
#208	FUSE LABEL	-	-	5139115010	5139115010	5139115010	-
#209	FUSE LABEL	-	-	5130607022	5130607022	5130607022	-
210	RUBBER SHEET	4610066139	-	-	-	-	-
#211	DANGEROUS MARK	-	-	5138268009	5138268009	-	-
212	SERIAL NO. PLATE	-	-	5130685019	5130685019	-	-
213	RIVET	-	-	4770126016	4770126016	-	-
214	WOOD BOARD (R)	1011469006	-	-	-	-	-
215	WOOD BOARD (L)	1011470000	-	-	-	-	-
216	FELT SHEET	1240032015	-	-	-	-	-
#217	INDICATION SHEET	5130784000	-	-	-	-	5130209006
#218	NOTICE SHEET	-	-	-	-	-	5130211006
#219	NOTICE SHEET	-	-	-	-	-	5130362006
220	VOLTAGE LABEL	-	-	-	-	-	5130348006
221	BLIND SHEET	-	-	-	-	-	5130140000
222	EARTH LABEL	-	-	-	-	-	-
223	CAUTION SHEET	-	-	-	-	5139110108	-
224	CAUTION LABEL	-	-	-	-	5138311006	-
225	CSA LABEL	-	-	-	-	-	-
a	SET COVER with Wood Board without Wood Board	5058092049	5040084007	5040084007	5040084007	5040084007	5040084007
b	CUSHION with Wood Board without Wood Board	50301374206	5030456001	5030456001	5030456001	5030456001	5030456001
d	COLOR LABEL (GOLD)	5139111001	-	5139111001	-	-	-
e	CONTROL CARD	-	-	-	-	-	-
f	CARTON CASE with Wood Board without Wood Board	5019104015	50191040	5019104044	5019104028	5019104040	5019104033
g	COLOR LABEL (BLACK)	-	5139111014	-	5139111014	5139111014	-
h	WARRANTY IN ENVELOPE	51300423103	51300423103	51300423102	51300423103	-	-
i	PROTECTOR SHEET	5040077056	-	-	-	-	-
j	SAFETY INSTRUCTION	-	-	5111041005	5111041005	-	5020556018
k	FAD	-	-	-	-	-	5130211007
l	CAUTION PAPER	-	-	-	-	-	-
m	IMPORTANT LABEL	-	-	-	-	-	-
n	RESET LABEL	5150290008	-	-	-	-	-
p	WARRANTY IN ENVELOPE	-	-	-	-	-	-

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BLACK VERSION PARTS LIST

(Same as SILVER VERSION except the followings.)

Ref. No.	Part No.	Part Name & Descriptions
43	1130515121	PUSH KNOB (A)
44	1130636000	PUSH KNOB (B)
45	1441257039	FRONT PANEL ASS'Y
48	1441256030	ESC. PLATE
52	1130415221	PUSH KONB (C)
55	1020183113	TOP COVER
58	1120415024	KNOB (A)
59	1120416023	KNOB (B)
109	4734454038	TAPPING SCREW (2) 4x8
1	5129111014	COLOR LABEL (BLACK)

Ref. No.	Part No.	Part Name & Descriptions	Ref. No.	Part No.	Part Name & Descriptions
213051	213051	150mΩ 1W CARBON (NB)	C339	2554169000	0.01µF ±5% 50V PLASTIC FILM
2321003	2321003	50mΩ 1W CARBON (NB)	C342	2561030070	0.1µF ±5% 100V PLASTIC FILM
2315008	2315008	100mΩ 1W CARBON (NB)	C343		
2029027	2029027	1000mΩ 5% 1W METAL OXIDE	C346		
213082	213082	150mΩ 1W CARBON (NB)			SWITCHES
2029003	2029003	200mΩ 5% 1W METAL OXIDE	SW201	2120221000	ROTARY SWITCH MODE
212221016	212221016	220mΩ 5% 1W CARBON (NB)	SW202	2124511004	2P PUSH SWITCH LOUD, SUB.
			SW203	2124462001	1P PUSH SWITCH DIRECT
					OTHER PARTS
					P.W. BOARD
					EP-5667H1 TERMINAL PIN USED 40
					2090008120 JUMPER WIRE P=10mm USED 60
					2036105032 4P CONNECTOR CORD
					2030230039 1P CONNECTOR
					2050185038 3P WIRE HOLDER USED 6
					4P WIRE HOLDER
					2050185041 5P WIRE HOLDER USED 2
					4711303018 3x6 CPS USED 2
					4756006008 3N USED 2

Ref. No.	Part No.	Part Name & Descriptions	Ref. No.	Part No.	Part Name & Descriptions
VR201	2110424008	VARIABLE RESISTOR 100k ohm MAIN	C201.	2554193005	0.1µF ±5% 50V PLASTIC FILM
VR202	2110198004	VARIABLE RESISTOR 250k ohm BALANCE	C202.	2554191007	0.082µF ±5% 50V PLASTIC FILM
VR203	2110309107	VARIABLE RESISTOR 50k ohm TREBLE	C203.	2554161008	0.0047µF ±5% 50V PLASTIC FILM
VR204	2110309110	VARIABLE RESISTOR 100k ohm BASS	C210.	2544146004	1µF ±20% 50V ELECTROLYTIC
VR301	2116025087	SEMI-FIXED RESISTOR 4.7k ohm IDLE	C213.	2554079048	0.01µF ±5% 100V PLASTIC FILM
VR302	2116025016	SEMI-FIXED RESISTOR 100 ohm DISTORTION	C214.	2534266004	7pF ±0.25pF 500V CERAMIC
VR303.	304		C218.	2544181001	1µF ±20% 100V ELECTROLYTIC
			C219.	2554165004	0.0068µF ±5% 50V PLASTIC FILM
			C220.	2554187008	0.056µF ±5% 50V PLASTIC FILM
			C224.	2554147006	0.0012µF ±5% 50V PLASTIC FILM
			C225.	2554183002	0.039µF ±5% 50V PLASTIC FILM
			C226.	2551122095	0.27µF ±5% 50V PLASTIC FILM
			C229.	2543016067	10µF ±20% 50V ELECTROLYTIC (B. POLE)
			C230.	2544181001	1µF ±20% 100V ELECTROLYTIC
			C231.	2544089022	100µF ±20% 50V ELECTROLYTIC
			C232.	2544146004	1µF ±20% 50V ELECTROLYTIC
			C233.	2554149004	0.0015µF ±5% 50V PLASTIC FILM
			C234.	2534482008	33pF ±5% 500V CERAMIC
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